

Measuring Conflict Exposure in Micro-Level Surveys

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Executive Summary

Violent conflict is a key obstacle to overall economic development and specifically to human development. Conflicts vary greatly in their nature – hence the impacts of conflicts on people also vary greatly. If socioeconomic research on conflict has demonstrated one thing, it is that the circumstances of conflict matter greatly for policies designed to end and overcome the legacies of conflict. Reconstruction policies in particular must build on local conflict legacies, taking into consideration how people were affected by war and violence, for example through death, displacement, disability, fear, asset loss or market breakdown. In essence, each person may experience a conflict differently, leading to different types of conflict exposure even within families or villages. Conflict exposure may vary by gender, political view, socioeconomic status, or mere bad luck. Capturing how people experience and are exposed to such conflict dynamics is the aim of this sourcebook.

Specifically, the objective of this conflict survey sourcebook is to increase the capacity of researchers and policymakers to identify consistently, comparatively, and across time, the ways in which violent conflict affects individuals, households and communities along key social and economic dimensions.

The sourcebook extensively reviews current practices and datasets used in micro-level surveys of conflict-affected populations. We review existing conflict- and violence-related questionnaires, with a special focus on the World Bank's Living Standard Measurement Study (LSMS) surveys. We suggest improvements to questionnaires in order to adapt them to conflict contexts. In addition, we discuss common methodological challenges faced while working in conflict-affected areas, such as operationalizing a definition of conflict, using the appropriate unit of analysis, timing the survey, dealing with common biases, and conducting surveys in an ethical manner.

We develop and discuss a conflict exposure module: a generic household survey module that can be readily adapted for future socioeconomic surveys implemented in conflict-affected areas. In the discussion of our module, we make special reference to the direct and indirect channels by which conflict may affect respondents' behavior and welfare. Our module builds on the extensive experience of the research team and others in survey design and implementation in conflict-affected areas. We provide suggestions to practitioners on designing questions to be sensitive to the timing of events and the intensity of individual experiences of violence. We suggest how answer categories may incorporate conflict scenarios that link directly to welfare and behavioral outcomes. We provide further solutions for how surveys can be comprehensive—covering demographics, economic welfare, conflict activities, health and harm, displacement, education, and perceptions of security, life satisfaction and expectations - in a conflict-sensitive manner.

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1. Introduction

Violent conflict has significant effects on the welfare, resilience and behaviour of individuals, households and communities. These impacts deserve close study at the micro-level, both as a new field of academic inquiry and as an aid to development and poverty reduction policy. Policy practitioners have increasingly realized the importance of understanding, compensating for and overcoming the constraints caused by violent conflict (ERD 2009; World Bank 2011). To gather better data on the impacts of such conflict, well-designed surveys need to acknowledge the prior existence of violent conflict in formal questionnaires and survey designs. We intend this sourcebook and survey module to serve as a basis for developing how a socioeconomic survey may be deployed in conflict-affected contexts. To that end, we review current practices, discuss specific methodologies for empirical research in conflict-affected areas and among conflict-affected populations, and develop a new conflict module in detail.

The sourcebook is intended for the benefit of researchers with widely ranging goals, including academics studying conflict in its own right and policy makers investigating the welfare of populations living in conflict-affected areas. Conflict has such a major impact on people's lives that researchers must account for its effect on their respondents' behaviour, resilience and welfare, regardless of the ultimate goals of the research project. Researchers interested in non-conflict variables can make their surveys conflict-sensitive in order to control for the effects of conflict and to isolate their variables of interest. Naturally, researchers interested in both the causes and effects of conflict will find this module a practical guide. Our module is particularly useful for researchers interested in developing a conflict typology, as our questions reveal the combatant strategies and tactics that are the sources of acute hardship for a given population.

The module may also be useful for the analysis of violence in other settings such as fragile states or areas suffering from high degrees of violence (such as some urban areas ruled by organised crime). For a discussion on how conflict, violence and fragility relate to one another, we refer to a related literature (Justino, Brück and Verwimp, forthcoming). However, the identification of violence at the micro level in surveys in fragile environments could also benefit from our conflict exposure module.

The sourcebook is organised as follows. In section 2, we review current survey practices in conflict-affected contexts, paying close attention to recent academic literature and quasi-standardized institutional surveys, such as the World Bank's Living Standards Measurement Study (LSMS) surveys. Academics have recently designed surveys purposely to investigate conflict, creating new methods for collecting data at the micro level, which, we argue, should be incorporated into common socioeconomic surveys implemented in conflict-affected areas. This new empirical research offers considerable opportunity for improving our knowledge of the processes of violent conflict that currently affect around 1.5 billion people worldwide (World Bank 2011). The new research details the functions and dynamics of conflict, as well as its impact on behaviour and welfare, on institutional change, and on overall development outcomes. Annex II provides a summary table for surveys with conflict-related questions, and recent surveys purposely designed to cover conflict can be found in Annex III.

There is a great need for making existing socioeconomic surveys more conflict-sensitive. The World Bank and other institutions have developed highly sophisticated surveying techniques, most notably the LSMS, to collect socioeconomic data at the micro-level. Yet these instruments have not been explicitly adapted for use in conflict-affected areas, despite being deployed in several conflict contexts (Bozzoli and Brück 2009b; Verwimp, Brück and Justino 2009). Standard household surveys, conducted in conflict-affected countries such as Nigeria, Indonesia, Colombia, Rwanda, South Africa, Pakistan and Liberia, only sporadically feature questions capturing the causes and consequences of violence, leaving treatments *ad-hoc* and incomparable across different settings. Furthermore, the lack of micro-level data forces researchers to rely on standardized macro-level measures of violent conflict, such as the number of battle deaths per country per year. This approach makes it hard to build a systematic and comparable understanding of how violence has affected different people, communities and population groups, the nature and intensity of the effects, the channels through which violence may affect welfare and behaviour, and how violence transforms society socially and politically. This is a key gap in current development interventions and programming in conflict-affected countries, where the experience of conflict is often overlooked, resulting in misplaced interventions and counterproductive outcomes (Justino, Brück and Verwimp, forthcoming; Verwimp, Brück and Justino 2009). We provide a summary table of studies that have leveraged existing LSMS and DHS data in Annex IV.

In section 3, we discuss several common methodological challenges related to conducting research in conflict-affected contexts. The first challenge is to agree on a workable definition of conflict. We take here a pragmatic approach and define conflict broadly as the systematic breakdown of the social contract resulting from and/or leading to changes in social norms, which involve violence instigated through collective action (Justino, Brück and Verwimp, forthcoming). We discuss the implications of our definition in section 3. A second important methodological point is the choice of the appropriate unit of analysis. We discuss what types of questions are best answered at the individual, household and community levels. The third methodological point is how to introduce time variation into surveys. This is particularly important in conflict-affected areas, as the length of time since major conflict events has important effects on data quality. We discuss several approaches to timing, including the implementation of surveys during conflict, *ex-post* surveys, and the collection of panel data in conflict-affected contexts. The fourth methodological point looks at common biases that often appear in data collected from conflict-affected populations, such as various selection biases and recall error. Finally, we discuss some of the ethical and security challenges associated with carrying out research in conflict-affected contexts and with populations that have experienced violence—sometimes in the extreme.

We develop and discuss our conflict module in section 4. The module aims to identify manifestations of violent conflict at the individual and household level through both direct and indirect channels. We define violent conflict as the systematic breakdown of the social contract resulting from and/or leading to changes in social norms, which involves mass violence instigated through collective action. This definition includes a variety of conflict intensities spanning from violent protests and riots to coups, revolutions, civil wars, genocide, international wars, and terrorism. It excludes forms of conflict grounded on labour relations that do not result in mass violence, such as strikes, lockouts and other forms of labour action; conflicts instigated by individuals for self-gain that do not involve mass violence,

such as thefts or robberies; and intra-household forms of conflict that do not necessarily degenerate into group violence, including domestic violence and bargaining processes within the household.

Violent conflict may impact welfare directly, through physical and psychological harm, death or illness of household members, destruction of assets and human capital, and displacement. Conflict may also have an indirect impact via its effects on income, prices, wages, access to markets, access to safety nets, social, economic and political institutions, community relations, and overall levels of insecurity (Justino 2009). We design questions to measure both types of impact channels. Additionally, the module includes questions about the type of violence experienced by individuals and households, its timing, the identity of perpetrators, and the measures and actions taken to cope with and limit exposure to violence and its effects.

We designed the module to be included—with modifications depending on the local context—in future micro-level surveys conducted by the World Bank and other stakeholders in government, civil society and academia in conflict-affected contexts. Handling a ready-made module saves upfront costs, makes more efficient use of staff and facilities, and helps to standardise, and hence compare, responses across different contexts of conflict and violence. We also recognise that each conflict has a unique character and practitioners should emphasize the aspects of this module that are most appropriate for each conflict context.

While we propose a general module to capture the effects of conflict and violence comparatively across countries and time, we acknowledge that crucial differences in the nature and evolution of conflicts will exist in different places and over time. We have therefore designed the module to be sufficiently flexible to allow for definitions that may shift between cultures and for adaptations to take place as other shocks occur. This makes the module adaptable to different psychological, legal, economic, social or political contexts that cannot be fully understood in general terms.

This new module is comprehensive but it is not a separate module disjointed from the rest of the remaining questionnaire. Instead, the new module addresses questions, and suitable multiple-choice answers, from across existing questionnaire themes, as conflict is a cross-cutting and interdisciplinary theme whose consequences cannot be pigeonholed into a single section of any questionnaire.

As we argue in the conclusion, two key priorities should be taken into consideration when measuring conflict exposure in micro-level surveys. First, it is easiest and perhaps best to capture basic losses in physical, financial and human capital, followed by measuring changed activities and welfare, followed by conflict-induced changes in social networks and markets. Measuring even some of these aspects would be preferable than not capturing them at all. Second, it is important to bear in mind and measure if possible when conflict exposure took place, namely before, during or after the violence took place. Locating conflict exposure in time is an important but often overlooked priority.

2. Current practice

Economists, political scientists, anthropologists, and other scholars have used a variety of empirical methods to research the impact of violent conflict on human welfare and behaviour. We review recent studies, pointing out the strengths and limitations of those studies that play a key role in the design of the conflict exposure module. We distinguish between surveys that are designed purposely to study conflict, and research that creatively adapts existing non-conflict surveys to generate insights on conflict processes and its welfare outcomes.

2.1 Purposely designed surveys

Purposely designed studies make up an emerging body of research focusing on the causes and impacts of conflict at the micro-level.² Their great advantage is that they identify and measure conflict directly within the survey questionnaire. This new scholarship departs from conflict research since the early 1990s, which concentrated on linking the risk of civil war to political and economic pre-conditions at the macro-level such as resource dependence (Collier and Hoeffler 1998; Hegre 2002; Elbadawi and Sambanis 2002; Fearon and Laitin 2003), poverty and political instability (Fearon and Laitin 2003), and weak state capacity (Fearon 2004), among others. This macro-level perspective has come under criticism for failing to identify important endogenous dynamics of violent conflict, such as causal relationships, linkages, and transmission mechanisms.³ New micro-level research focuses on the complex causal mechanisms that lead to conflict and the impacts on welfare that result.⁴

In recent years, several scholars have made considerable steps in advancing our knowledge of the causes of conflict. They have revealed insights on how local conflict dynamics influence the incidence of violence (Kalyvas and Kocher 2009), on how violent collective action emerges (Goodwin 2001; Petersen 2001; Wood 2003; Blattman 2009; Beber and Blattmann 2010), on how competing groups form, interact and behave (Grossman 1991; Gates 2002), on the organization and functions of violence (Keen 1998; Cramer 2006; Kalyvas 2006) and on the internal organization of armed groups and motivations of individuals that form them (Richards 1996; Weinstein 2007; Humphreys and Weinstein 2008).

Important advances have also been made in the understanding of the consequences of violent conflict on the lives, livelihoods and human capital of individuals and households (Alderman, Hoddinott and Kinsey 2006; Justino 2012; Verwimp, Justino and Brück 2009; Chamarbagwala and Moran 2008;

² A similar direction is the qualitative analyses of populations affected by violent conflict, based on small samples and limited geographic locations (Lubkemann 2008), but containing a wealth of information on conflict processes, community structures and institutional changes at the local level. Due to the purpose of this paper, we focus this section only on quantitative surveys.

³ See Lichbach (1989) for an early review; and Verwimp, Justino and Brück (2009), Justino (2012) for recent discussions.

⁴ Several academic collaborations undertake micro-level research on conflict including the Households in Conflict Network (hicn.org), MICROCON (microconflict.eu), the CRISE network (<http://www.qeh.ox.ac.uk/research/research-networks/crise-network>), and the Training and Mobility Network for the Economic Analysis of Conflict (diw.de/tamneac).

Merrouche 2006; Rodriguez and Sanchez 2009), short- and long-term health (Bundervoet, Verwimp and Akresh 2009; Akresh, Verwimp and Bundervoet 2011; Minoiu and Shemyakina 2012; Bundervoet 2012; Michaelsen 2012; Akresh, Lucchetti and Thirumurthy 2010; Guerrero-Serdan 2009), schooling (Shemyakina 2011; Akresh and Walque 2008; Justino 2012; Dabalen and Saumik 2012; Bundervoet 2012; Akresh et al 2012; Swee 2009), and coping strategies (Bozzoli and Brück 2009a; Brück and Schindler 2009a; Verpoorten 2009; Berlage, Verpoorten and Verwimp 2003). In addition, new research has furthered our theoretical understanding of different types of vulnerability (Justino 2009), and has been used to assess policy interventions in conflict-affected areas and countries (Ibáñez and Velásquez 2009; Kondylis 2007b).

This body of research has led to more systematic approaches to measuring conflict at the micro-level based on original survey designs. We review here specific examples from five types of purposely built surveys used in the literature: (i) ex-combatant surveys; (ii) genocide and atrocities surveys; (iii) surveys of displaced populations; (iv) post-conflict reconstruction surveys; and (v) general conflict-sensitive surveys.

Ex-combatant surveys

Several surveys analyse the experiences of specific population groups, notably former soldiers and members of rebel movements.

Chris Blattman and Jeannie Annan, who directed the Survey of War Affected Youth (SWAY) in Northern Uganda in 2005 and 2006, make an important contribution to the design of surveys that monitor the micro-level effects of violent conflict.⁵ The survey was conducted among 741 male youths in eight sub-counties. The survey assesses different dimensions of vulnerability and resilience across social contexts and collects information on education and training, livelihoods, health, substance abuse, impacts of war violence and abduction, and the success of reintegration of former abductees. The survey implements a strong sampling methodology—employing a technique which the authors call “retrospective sampling”—that captures long-distance migrants and incidents of mortality. This helps correct for attrition bias resulting from death or migration. Furthermore, the authors avoid replacing difficult-to-find respondents to mitigate self-selection bias.

The study creatively uses culturally-specific indicators to measure psychosocial wellbeing, such as “nightmares and insomnia” or “perceptions of haunting by spirits”, although the indicators’ cultural specificity limits their comparability and use in other contexts. A similar measurement of the exposure to violence and emotional distress has also been used in the Northern Uganda Social Action Fund Youth Opportunities Project (NUSAF YOP 2008). The survey also measures the scope and nature of violence experienced by different population groups. Based on semi-structured interviews, the team developed a catalogue of the 31 most common—and traumatic—acts of violence. The list of trauma includes experiences such as “you were forced to kill a family member or friend” and “you were forced to betray a family member or friend” (Annan, Blattman and Horton (2006: 52).

⁵ See <http://chrisblattman.com/projects/sway/> for a description of the project.

The SWAY surveys influenced the design of our module in several important respects. The questions capture a broad range of conflict scenarios and often allow respondents to pick answers along a spectrum of intensity. The survey pays close attention to demographic changes in households brought about by war. The team makes careful note of migration into and out of the household, directly asking the reason for changes and collecting information on a broad range of conflict causes. The age of migrants is particularly important since it may provide information on warring parties' recruitment strategies, changes in the household dependency ratio, and the prevalence of child-headed households.

Humphreys and Weinstein (2004; 2008) profile the motivations of Sierra Leonean ex-combatants for joining and staying with armed groups and their attitudes towards disarmament, demobilization and reintegration. The survey reaches 1,043 ex-combatants. The authors employ novel methods to reconstruct time periods within the conflict, creating a dataset with significant time sensitivity. Respondents were asked to recall their geographic location during active participation with armed groups at specific periods during the war. The authors constructed time periods demarcated by well-known events as well as dates to aid respondents' recall. The method yields a set of responses at different locations and time periods throughout the conflict. To avoid respondents feeling compromised by their answers, the questions ask whether respondents observed potentially incriminating events, such as theft, rape, and assault, rather than perpetrated them personally. The surveys also focus on the re-integration process of these ex-combatants.⁶

Overall, these surveys portray an array of motivations for participating in conflict that suggests multiple causes for joining and staying in armed groups. The survey discovered that motivations for joining each faction differed systematically, with forced recruitment and monetary incentives taking a prominent role in the Revolutionary United Front (RUF) and with communal defence and the provision of basic needs taking a prominent role in the Civil Defence Forces (CDF).

Arjona and Kalyvas (2008) also look at the individual characteristics for joining armed groups in Colombia, relying on survey data from 732 ex-combatants of a leftist guerrilla group and a right-wing paramilitary group. This survey offers extensive information on joining, group organization and practices, and demobilization. However, this survey's sampling approach is problematic. Security concerns in various sampling areas and the reliance on sample frames, drawn exclusively from a national demobilization and reintegration program, prevent the authors from constructing a representative sample. Guichaoua (2007) uses a similar instrument to examine motivations to join insurgent and incumbent groups in Nigeria.

Eric Mvukiyehe, Cyrus Samii, and Gwendolyn Taylor conducted over 3,000 interviews in 2007, primarily focusing on armed group recruitment in the civil war in Burundi (1993-2007). This survey was implemented among both combatants and non-combatants in order to identify how experiences differ between armed groups. The survey covers personal experiences of violence and points directly to

⁶ See also Taylor (2007); and Fearon, Humphreys and Weinstein (2009), and for Sierra Leone PRIDE/JCTJ (2002). A useful website for the collection of information on different surveys is Post-Conflict and Ex-Combatant Surveys, <http://www.columbia.edu/~mh2245/XCSURVEYS/> (28/04/2010).

conflict as a cause of welfare change. The question on the “reason for death” – “war” explicitly identifies conflict as directly causing mortality. Respondents who suffered from physical mistreatment, sexual abuse or forced labour directly identify their perpetrators.⁷ We employ similar structures in the conflict exposure module, collecting information on conflict-related causes and directly identifying perpetrators in the health and harm section.

Genocide and atrocities surveys

The Genocide Transition Survey (2000), conducted in Rwanda by Philip Verwimp, is a leading example of the potential for panel survey-based research in conflict-affected areas.⁸ Verwimp tracked the fate of members of households who had been interviewed in a nationwide agricultural survey prior to the 1994 genocide. In addition to important insights into the profiles of perpetrators (Verwimp 2005) and victims (Verwimp 2003) of the 1994 genocide in Rwanda, this survey has demonstrated that tracking households and individuals is possible even under the difficult circumstances of a post-conflict society. Verwimp notes that the success of the tracking exercise depended on the extensive preparation of the project, the long-term presence of the researcher in the field as well as the well-organised nature of Rwandese society, where people on the hills know each other’s whereabouts.

The Darfur Refugee Questionnaire (DRQ) lays the foundations for the US State Department to declare the killings in Darfur as genocide. The survey solicits a description of violent acts from the victims surviving in refugee camps and links them to their perpetrators, establishing grounds for defining the violence as genocide. The work by Totten and Markusen (2006) provides insights into how this survey was conducted.

Surveys of displaced populations

The welfare losses suffered by displaced people are a common area of conflict study. The Northern Uganda Livelihood Survey of 2007 (NULS) covers multiple topics concerning the livelihood choices of displaced populations in a survey of both individuals and the household (Bjørkhaug, Bøås, Hatløy *et al.* 2008). The survey follows up on the 2005 Northern Uganda Internally Displaced Persons Profiling Study and the 2006 Lira District Early Recovery Needs Assessments conducted by Fafo, the Institute for Applied Social Science (Norway) and surveys 5,000 households. The NULS survey is particularly sensitive to identifying how the conflict has impacted their respondents. The survey’s carefully phrased questions are specific enough to capture motivations for migration, experience of violent crime and abduction, information on the perpetrations, and causes of health problems accruing from combat. The survey identifies whether the person was a combatant and to whom they would turn for protection. Furthermore, the survey asked respondents about their expectations for recovery. NULS’ comprehensive answer categories guided the development of our module.

⁷ An example of the survey identifying perpetrators is the question: “those abominable crimes have been committed mostly by government forces (FAB), fighting groups (militias), or by both similarly?” See also on Nepal Samii, Gilligan and Eck (2009).

⁸ See Verwimp (2003a) for a description of the survey.

Deininger, Ibáñez and Querubin (2004) use an unusually large survey given to 32,093 households applying for assistance from the Catholic Church (RUT) in Colombia to investigate the decision to return after displacement. The survey is penetrating, asking respondents about the causes of displacement, household demographics, access to land and the labour market and education. The study determined that, most prominently, displaced households return to seek agriculture employment, recover access to land and reintegrate with social networks. Vulnerable groups that faced traumatic experiences before displacement or belong to ethnic minorities are less inclined to return.

This is one of the few surveys available that trace the movements of displaced people. The setback is that information was collected only if people requested assistance from the church, which may present some selection bias. Nevertheless, this information has been used insightfully to examine the extent of asset losses and labour market prospects of displaced people (Ibáñez and Moya 2009), the determinants of displacement (Engel and Ibáñez 2007) and labour supply outcomes and wage changes for IDPs (Calderón and Ibáñez 2009).

Post-conflict reconstruction surveys

Many institutional researchers have developed surveys to assess the sustainability of post-conflict reconstruction. The Standardized Monitoring and Assessment of Relief and Transitions (SMART) surveys provide a standardized methodology for measuring key statistics in the wake of an emergency such as conflict. The SMART approach was designed by several humanitarian agencies to standardize surveys that determine the severity of humanitarian crises. The method focuses on basic indicators such as the nutrition status of children under 5 and the mortality rate of the population. The Centre for Research on the Epidemiology of Disasters compiles the Complex Emergencies Database (CE-DAT), which houses SMART survey data.

The International Committee of the Red Cross (ICRC) and the Greenberg Research team conduct the “People on War Surveys” for a variety of conflict-affected countries.⁹ ICRC funds the surveys in part to assess the perception of its own interventions. The surveys are standardized so that results can be compared across all participating countries. To account for country-specific contexts, the wording of some questions is modified where necessary. In Haiti, for example, the questionnaire asked about “armed violence” instead of “armed conflict” (International Committee of the Red Cross 2009).

Mvukiyehe and Samii (2008/9) evaluate the peacekeeping operations in Cote d’Ivoire. This survey captures the potential for conflict re-escalation by reporting on events and circumstances that might warn of renewed conflict. The survey also investigates perceptions of security amongst populations and repeated violence against civilians in different locations. Referring to time periods constructed between well-known events, respondents were asked whether or not they witnessed or suspected ‘inter-ethnic fighting, presence of armed groups, or recruitment by armed groups in their localities’ (2008/9:8). The Tuungane reconstruction survey, implemented by the International Rescue Committee, develops instruments to capture the attitudes towards the legitimacy of using violence ranging from ‘nothing can justify the use of violence’ to ‘resort to violence if one’s concerns are not addressed’ (Humphreys 2008).

⁹ Afghanistan, Colombia, Democratic Republic of the Congo, Georgia, Haiti, Lebanon, Liberia and the Philippines.

Other conflict sensitive surveys

The Burundi Priority Household Panel (1998-2012) analyses the welfare effects of civil war by comparing households in villages affected by the war with households in non-affected areas. A research team from Antwerp, Brussels, Wageningen University and the National Institute of Statistics and Economic Studies in Burundi (Isteebu) organized the survey with a sample size of 1,000 households in 2007 (Bundervoet, Nillesen, Verwimp *et al.* 2009). The survey features questions on violence and conflict at the individual, household and community levels. The panel design, collected in three waves in 1998, 2007 and 2012, captures comparable data on welfare before and after incidences of violence. Special attention was given to tracking individuals who left the household since the first wave of the survey (Verwimp and Bundervoet 2009). The same team followed up the results of this survey with experimental economic games in conflict-affected and non-affected areas in 2009. The experiments measured how exposure to violence affects individual risk, social and time preferences (Voors, Nillesen, Verwimp, *et al.* 2009). This set-up allows the researchers to link outcomes measured in the survey with those observed in the game.

The Life in Kyrgyzstan Survey (LIK) interviews 3,000 households annually over 3 years (2010-2012) to create a nationally representative panel. The survey project was implemented at the German Institute for Economic Research. The LIK surveys are conflict-sensitive and cover a comprehensive list of topics, including security and violence, demographics, household assets, expenditure, migration, employment, agricultural markets, shocks, social networks, and subjective well-being.

The Maharashtra Household Longitudinal Survey (MHLS), funded under the European Commission's MICROCON program, interviews 1,089 households living in the Indian state of Maharashtra. The study targets violence-prone communities in a panel survey conducted in 2010 and 2012. The survey covers welfare comprehensively, including questions on welfare changes, employment, schooling, access to amenities, attitudes, exposure to violence, vulnerabilities, communal relations and trust.

The Colombian Longitudinal Survey of Wealth, Income, Labor and Land (ELCA) interviewed 10,000 households in rural and urban areas, creating a panel survey in 2007. The survey asks specific questions on the activities of armed groups in neighbourhoods, including information on migration, recruitment, and local cooperation with armed groups.

Summary

Purposely designed surveys measure conflict directly, allowing researchers to gather valuable evidence on conflict processes. By collecting comprehensive information on households, being sensitive to conflict intensity, and disaggregating by time and place, purposely designed surveys can uncover the unfolding process of conflict rather than assessing conflict as a one-off shock. Besides offering new evidence, this ground-breaking work has established the requirements for rigorous empirical work in conflict-affected areas. Researchers have coped with important missing populations, extreme insecurity, and sensitive questions. Empirical instruments used to assess the impacts of violence cover different aspects of violence and changes in individual and household situations over time. Unfortunately these surveys tend to demand a lot of resources: sample sizes are large, interviews sometimes last several

hours, costs are high, and local expertise is crucial. Some issues have received more attention in the surveys outlined above, such as recruitment, reintegration and reconstruction. Other issues such as coping strategies, adaptation behaviour, and dynamic social, economic and political interactions have received only limited coverage. The conflict exposure module provides some example of how researchers can extend questions into these areas.

2.2 Use of existing socioeconomic surveys

Researchers have made use of existing socioeconomic datasets, collected for purposes other than conflict research, by creatively merging them with conflict event data. This method makes good use of existing data but has its downsides. Existing surveys often lack sensitivity to event timing, presenting difficulties for researchers seeking to link datasets on welfare outcomes to conflict event timelines. Processes that evolve over time are notoriously difficult to capture in standardized household questionnaires unless specific temporal questions can be included or the research topic is well suited for cohort analysis. Existing surveys often lack a comprehensive treatment of conflict in questions and answer categories. This leaves out important information on why a decision was taken or an event occurred and neglects conflict as a causal variable when it could otherwise have been directly measured. However, this can be mitigated through the use of high-quality event datasets. The main downside here is that often matching datasets is not possible, either because identities of respondents cannot be reconstructed, or because researchers cannot access that information for confidentiality reasons.

Living Standard Measurement Study (LSMS) surveys

Living Standard Measurement Study (LSMS) surveys aim first to provide high quality data for policy makers to assess the effectiveness of interventions designed to improve the living standards of individuals, households and communities. Micro-level empirical research on the effects of conflict and violence has made use of the various LSMS surveys implemented by the World Bank since the 1980s. The surveys are well accepted tools and are comprehensive, often covering demographics, income, health, displacement, and education. However, these surveys are primarily designed for peaceful contexts and often neglect an explicit treatment of conflict as a category in its own right. Conflict is however a major causal variable in conflict-affected areas and policy makers would gain a better understanding of how conflict impacts their policies by explicitly incorporating conflict sensitivity into surveys. It is rare that LSMS surveys contain very detailed conflict-related questions, even those conducted in conflict-affected countries. For example, the LSMS survey conducted in Timor-Leste in 2001 asks only two questions on war damage, focusing exclusively on damage to dwellings. The LSMS survey conducted in Tajikistan in 2003 does not ask any questions on war damage to major household assets.

LSMS surveys are often designed to meet the needs of government policymakers, who sometimes wish to avoid referring to the conflict in an effort to start afresh. As a result, questionnaires may focus on the experiences and the standards of living after rather than during the conflict, as was the case in the LSMS survey in Kosovo 2000 or in Bosnia and Herzegovina from 2001-2004. Secondly, some questions about conflict may be politically sensitive and government officials may be apprehensive about including them in conflict surveys. For example, questions about the destruction or theft of assets that identify the

perpetrators, especially if government forces are included in the list, may raise controversial or even legal issues for government administrations. Likewise, government-sponsored surveys may avoid addressing the conflict in formerly rebel-held territories for fear of invoking distrust or upsetting a delicate peace. Accordingly, some questions that are relevant for researchers may be left out in government-sponsored questionnaires. While these concerns may put some limits on the use of LSMS surveys for conflict research, the limitations should not be overdrawn, as policymakers and researchers have many complementary interests in data collection.

While LSMS surveys are often comprehensive across multiple dimensions of households' livelihoods, answer categories do not always offer a comprehensive range of answer choices. Surveys should be comprehensive *within* answer categories, considering a broad range of conflict-related choices to allow for disaggregation. This has a significant impact on the quality of research that can be carried out with the results. For instance, in her study on displacement, Kondylis (2007a) could not differentiate between refugees and internally displaced people. This relegated many relevant experiences to the 'others' category and excluded them from the final analysis.

Since LSMS surveys often collect broad and standard data, they are well suited to standardization for international comparison. To the extent possible, LSMS surveys should be comparable across countries and time. Differences in wording that may lead to significant restrictions in terms of data comparability. For instance, the Azerbaijan and Tajikistan surveys cue their respondents to refer to time periods before, after and during the conflict in different ways, making comparisons across countries very difficult or impossible.

Many past LSMS surveys have included conflict-related questions, yielding important insights for conflict research. We reviewed 24 of these surveys, analysing their structure and the contents. The list includes Azerbaijan (1995), four waves in Bosnia & Herzegovina (2001-2004), Guatemala (2000), Iraq (2006), Kosovo (2000), Nepal (1995/96, 2003/4, 2010), two waves in Peru (1991, 1994), Serbia (2002, 2003, 2007), Tajikistan (1999, 2003, 2007, 2009), Timor-Leste (2001, 2007) and Malawi (2004, 2010).¹⁰ We find many good examples of conflict-sensitive questions across these surveys and make use of them in later sections. However, the inclusion of conflict questions has been piecemeal, resulting in insights scattered across countries and categories rather than a systematic and comparative approach to measuring conflict. While relevant aspects have been considered in some surveys, they are not often found together in one questionnaire and usually spread across modules on labor, finance, and agriculture.

Researchers have capitalized on well-constructed questions in LSMS surveys to further our understanding of conflict. We present a table in Annex III that lists these studies and their major conclusions.

¹⁰ For an excellent description on the development, changes and experiences with LSMS refer to Deaton (2000: 32-40).

Standardized household surveys and censuses

Researchers have leveraged standardized household surveys and censuses to study conflict. These surveys often ask questions that investigate the consequences of conflict directly. When they do not, researchers have produced important conflict research by matching data to conflict event databases.

Weidmann (2009) uses Bosnian census data and the ACLED conflict events database to determine how conflict affects ethnic population concentration. Census data gives a measure of the ethnic concentration in municipalities, which can be matched to an index measuring the intensity of violence. Weidmann finds that contested municipalities, i.e. those without clear dominance by any ethnic group, were more likely to see intense fighting during the conflict. Similarly, Dabalen, Kebebe and Paul (2012) match the Ivorian Household Living Standards Survey (HLSS) from 1998, 2002 and 2008 to ACLED data in order to analyse the conflict in Cote d'Ivoire. Their results mirror the Bosnian study, showing that both ethnic and religious diversity are linked to greater likelihood of conflict.

Further leveraging the Ivorian HLSS and ACLED data, Dabalen and Paul (2012) find that the conflict intensity negatively impacts schooling outcomes among children. The cohort of school-age children during conflict years lose almost a full year of schooling compared with cohorts educated before the conflict. Minoiu and Shemyakina (2012) find corresponding results for Ivorian children's health, using ACLED data to measure conflict intensity. The study offers a good breakdown of the conflict-related channels impacting children's health, differentiating by economic, health and displacement channels. The results show that children of 0-5 years in regions most affected by conflict suffered from significant health setbacks.

Rohner, Thoenig and Zilibotti (2012) match two waves of the Afrobarometer survey in Uganda respondents to ACLED data in order to investigate the effects of the North Ugandan conflict on social capital. They find that intensive fighting lowers trust and reinforces ethnic identity rather than national identity. Furthermore, they find evidence that the intensity of fighting hampers economic recovery in highly fractionalized counties by reducing social cohesion, but has no discernible effect in more homogenous counties. Reinforcing these results, De Luca and Verpoorten (2011) match two separate waves of the Ugandan Afrobarometer to ACLED data. They find that Ugandans in the areas worst affected by violence are less likely to report general trust or participate in community organizations.

Deininger (2003) conducted one of the first micro-level analyses on violent conflict and its consequences, using data on communities and households from the 1999/2000 Uganda National Household Survey (UNHS) and the 1992 Uganda Integrated Household Survey (IHS). These surveys contain information on approximately 10,000 households and 1,000 communities, asking respondents a limited number of questions relating to civil war. These questions provide some information on victimization and the motivations for participation in the war. The UNHS asks retrospectively whether the household "production of crops/ cattle or livestock rearing/ trading activities has been harmed by the civil strife", as well as how many incidents occurred "of theft of property" and "of physical attacks on members of the household." Unfortunately, these surveys are insensitive to the magnitude of

damage to household assets or the severity of violence in specific locations. The lack of sensitivity limits the scope for differentiating between the impacts of violence in different areas and populations.

Verpoorten (2011) demonstrates how census data can yield a measure of conflict mortality, forming the basis of 'Wartime Excess Mortality Index' that can be used to track conflict intensity. Census data is comprehensive and includes the mortality of victims of both combatant parties, those dying in large and small events, those in remote and accessible areas, as well as direct and indirect mortality. This comprehensiveness creates a relatively unbiased estimator of wartime mortality, although it may also capture mortality unrelated to wartime events. Verpoorten applies the index to measure the effect of conflict intensity on schooling.

Czaika and Kis-Katos (2009) study the determinants of displacement in Aceh, Indonesia, using the Village Potential Census (PODES), which maps conflict-affected villages across all of Indonesia. The census itself includes questions, posed to community leaders, identifying whether conflict took place in a particular community. The team finds that the experience of violence was the primary cause of displacement, although this was somewhat moderated in villages with an active police presence.

Some researchers have drawn interesting conclusions by going back to historical data. Akbulut-Yuksel (2009) shows how a unique dataset on city-level destruction in Germany caused by Allied Air Forces bombing during World War II can provide far-reaching insights when combined with a socioeconomic panel. While his dataset is much less informative than the one used by Kalyvas and Kocher (2009) in capturing only the effects of city-level destructions, Akbulut-Yuksel's results suggest that war and violence can have far-reaching impacts on human capital decades after their occurrence.

Demographic and Health Surveys

Demographic and Health Surveys (DHS) are specialized instruments, incorporating great detail on health, fertility and mortality outcomes for a variety of population types. However, they often lack information on conflict and violence, even when they are conducted in conflict-affected countries.

The United Nations Population Fund (UNFPA) demographic survey, conducted in Burundi in 2002, targets health and demographic outcomes and contains several questions on child, spouse, and parental mortality. Bundervoet (2009) investigated the victims of the 1993 killings in Burundi using this survey. The questionnaire has three features that make it particularly relevant for conflict analysis and provide grounding for the conflict exposure module. Firstly, the survey is time-sensitive, recording the years and sometimes months that events occurred (for example, the death of the respondent's spouse). Secondly, it constructs a pre-conflict wealth variable by asking the number of cattle the household possessed immediately before the conflict. Thirdly, its migration questions can be disaggregated by time and place. Migration questions ask the household for a detailed account of the duration and location of all migratory moves and residences since the start of the civil war. This traces the whereabouts of the household over time, revealing the dynamics of the conflict and giving a sense of the intensity of migrant experience. We incorporate these features into the displacement section of the conflict exposure module.

Demographic and Health Surveys have been used to assess the long-term impacts of genocides. De Walque and Verwimp (2010) used a Rwandan DHS to infer the socioeconomic and demographic profile of excess mortality in the 1994 genocide. One challenge of this type of research is to account for the fact that whole families might have died and that families with many survivors might have been over-sampled, creating an attrition bias. Despite the limitations, the authors were able to capture the disproportional negative effect of the genocide on educated and urban groups. These results were similar to the patterns found by De Walque (2004), who used a DHS to assess the long-term impacts of the Cambodian genocide during the Khmer Rouge period.

The 2002 Rwandan Rural Labour and Death Survey is another useful demographic survey. This survey asked 1,500 households about changes in the composition of the household in the four years prior to the interview. Although the response categories include an option for death by “murder”, there are no follow up questions about the profile of the perpetrators. This questionnaire was not designed as a conflict questionnaire but can be used to analyse the effect of death and disease on household labour supply.¹¹

We present a table in Annex III that lists several other studies that use DHS data. The table includes the major conclusions of these studies.

Summary

The use of existing socioeconomic surveys has yielded valuable insights on conflict, especially when matched with conflict event databases. Socioeconomic surveys given in conflict-affected areas could be even more fruitful and rigorous if they incorporated an explicit treatment of conflict. Below, we suggest several guidelines for achieving a more conflict-sensitive treatment, including embracing self-reporting, incorporating event timing information, and differentiating by intensity in answer choices. In the conflict exposure module, we propose a series of instruments that aid in the adaption of socioeconomic surveys to conflict environments.

2.3 Guidelines for a conflict sensitive survey

Surveys in conflict-affected areas need special considerations to reveal useful information for conflict analysis. There are two main ways of linking conflict to socioeconomic responses: researchers can rely on self-reported answers from respondents themselves or link responses to external conflict event databases. The first requires respondents to have the opportunity to report on how conflict affects them. The second requires surveys to collect detailed time information about when events occur so they can be better matched to external conflict event databases. Additionally, good conflict analysis requires information not only on whether a respondent was affected by conflict, but also the severity of the impact.

With these considerations in mind, we have established four guidelines that would better adapt existing socioeconomic surveys for use in conflict-affected contexts:

¹¹ Evidence for the estimation of war deaths, which is not the focus here, is collected in so-called mortality surveys. For a discussion of their quality, see Degomme and Guha-Sapir (2007).

- (i) allow respondents to self-report on conflict events by including conflict scenarios in answer categories,
- (ii) record the timing of events,
- (iii) be sensitive to the type and intensity of violence, and
- (iv) be comprehensive by including conflict questions in multiple survey sections and including a range of conflict answer choices in answer categories.

Respondent self-reporting on conflict

Asking respondents to self-report on how conflict has affected them is a straightforward way to understand more about conflict dynamics. Too few socioeconomic surveys extend answer choices to give respondents the opportunity to explain how conflict affects them. For example, in the 2007 LSMS in Tajikistan, respondents are asked why they did not work in the past 14 and 30 days, yet answer options include no conflict-related causes, such as lack of security or a handicap due to violence. The LSMS in Iraq in 2006 goes further to address the effect of conflict on income by including answer options that point to “security” and “handicaps” as reasons for the inability to work. However, these categories could be more comprehensive by including a broader range of conflict-related scenarios, such as discrimination, crime, the destruction of assets, the disappearance of key markets, military service and the volatility of prices.

With the addition of a comprehensive listing of conflict scenarios as in the conflict exposure module, researchers can connect socioeconomic effects directly to conflict-related causes. For example, questions about income and asset losses allow respondents to point to conflict causes, such as limited security or landmines, forced or voluntary military service, injuries due to violence, and destruction due to violence or displacement. Extending answer options to include self-reporting adapts existing surveys to conflict contexts without raising significant implementation costs.

Although we encourage conflict area surveys to use self-reporting, the technique has drawbacks. Self-reported answers are highly subjective and will likely introduce biases. Respondents may erroneously recall the reasons why they made certain decisions. In situations as intense as conflict, respondents may construct a narrative after the fact that gives disproportionate weight to extraordinary and memorable experiences. Furthermore, respondents may be unable to distinguish between ultimate and proximate causes. For example, respondents may answer that they left their home to seek work when, ultimately, the collapse of labour markets was caused by the deteriorating security situation. Despite the limitations of using self-reported answers, including conflict-related scenarios in answer choices remains a straightforward way of making existing socioeconomic surveys more conflict sensitive.

Sensitivity to the timing of events

Carefully recording information on when events occur allows researchers to match socioeconomic outcomes with conflict events. This enables researchers to better understand conflict as it evolves over time. Few socioeconomic surveys in conflict-affected areas record time information systematically, limiting the scope for matching survey data with conflict event resources. With detailed time information, researchers know whether events occurred before, after, or during a conflict and can

capitalize on conflict event databases that provide a localized history of conflict events. For example, in the conflict exposure module, we collect time information on many types of questions, including when household members left or joined, when income, asset, and food consumption losses occurred, when coping measures were introduced, when harm was inflicted, and when people were first displaced.

The exact date is not the objective and there are many second best options that researchers can use when respondents do not recall exactly when an event occurred. Much research can profitably use inexact dates, which refer to the month or even the season of an event. Researchers can also construct localized conflict timelines by recording dates of major conflict events and allowing respondents to describe when an event occurred in reference to these timelines. This usually requires researchers to establish a local conflict event timeline beforehand, preferably with the aid of an initial community questionnaire. For example, a respondent might say that they remember that an event occurred “after a major attack on the village that destroyed the school.” The overarching goal of being time-sensitive is to align respondent answers to major changes in the dynamics of the conflict rather than to produce a precise chronology. Existing socioeconomic surveys can adapt to conflict research without adding substantial costs by introducing questions that capture the timing of events.

Sensitivity to the type and intensity of violence

Micro-level surveys in conflict-affected areas should be sensitive to the type of violence. Each conflict creates its own particular hardships which are acutely felt by the populace. Acute hardships vary according to circumstance and war strategy, making each conflict a unique burden for the population. Measuring how much people suffer is important for determining the sources of acute hardship and types of violence borne by the population. For example, respondents in Angola may suffer physical injuries from the widespread use of land mines, while Palestinians suffer a loss of income from the difficulty of moving through checkpoints.

Sensitivity to intensity requires answer categories to go beyond simple binary variables by including a range of responses at different levels of intensity. For example, in the conflict exposure module, we measure the months of income and food consumption interruption as well as report on the theft or destruction of assets with a range of different values, which allows us to create a spectrum of welfare impacts. In the health and harm section, we include an escalating list of injuries, ranging from verbal threats to armed attacks, rape, and serious bodily harm. In the displacement section, we ask not only if the respondent has been displaced but the number of times they have moved, providing a scale of intensity for the displacement experience. These ranges can provide a scale for assessing the seriousness of the hardship suffered by the respondent.

Comprehensiveness

Overall, surveys should be comprehensive, covering a broad range of channels from conflict to household livelihoods. While LSMS surveys are by their nature very comprehensive, conflict-sensitive questions are often left out of many modules. Surveys that focus too narrowly on select categories fail to account for the multi-dimensional impacts of conflict. We suggest that surveys should gauge the impact of conflict *comprehensively* across multiple dimensions of households’ livelihoods. Surveys

should include questions on conflict in sections on demographics, economic welfare, coping activities, health and harm, displacement, education, and perceptions of security, life satisfaction and expectations.

Additionally, surveys should be comprehensive *within* answer categories, considering a broad range of answer choices to allow for disaggregation. For example, questions on assets should allow respondents to report on a range of important household assets rather than singling out dwellings. When surveys ask about recruitment, answer categories should disaggregate by abduction, voluntary and forced recruitment. Similarly, migration or deaths in the household should offer a range of responses to choose from, covering major scenarios likely in conflict-affected areas. Being comprehensive within answer categories allows for fine grained analysis.

3. Methodology for surveying in conflict-affected areas

Researching at the micro-level in conflict-affected areas poses significant methodological challenges. We discuss several prominent challenges, including defining violent conflict at the micro-level, choosing the appropriate unit of analysis, dealing with time variations in survey design, addressing potential biases, and handling sensitive questions in an ethical manner.

Before we begin this section, we would also like to suggest that researchers draw on existing conflict-sensitive surveys in order to learn how to implement the conflict exposure module – or how to work in conflict affected areas, more generally. While each conflict is unique, the process of working in conflict areas shares some common features and challenges. There is substantial capacity around the world in doing such work and it may be worthwhile to include at least one such expert in a larger project team from the planning stage onwards.

Piloting a survey and the conflict exposure module can help to learn more about the context-specific challenges and needs. There may be obvious security and ethical issues in piloting a conflict-relevant survey which should be born in mind (see also section 3.5 on ethics below). Furthermore, if a conflict has a group-specific effect (for example, for a specific region or ethnicity) then piloting in the capital may not be that useful. It is therefore important to have a clear understanding of the specific conflict at the design stage of the survey so that the pilot can be utilized in a meaningful way.

There is also significant scope for learning about conflict and how it impacts populations – and in fact about how to improve quantitative research on these issues – by adopting qualitative or mixed methods approaches. Many researchers in the applied social sciences use both qualitative and quantitative approaches to study these issues. Several examples of research of this nature can be found on the website of the Households in Conflict Network (www.hicn.org), where over 140 working papers document numerous methodological approaches to conflict research. Having said this, this sourcebook focuses on the challenges in the quantitative measurement of conflict legacies at the micro level by using survey instruments. In many circumstances, combining such an approach with qualitative methods will yield better research findings.

3.1 Defining conflict at the micro-level

One of the most important challenges in designing surveys in conflict-affected contexts is to create and operationalize a definition of conflict that captures the impact of conflict on the lives of individuals, households and communities. High-level definitions of conflict like interstate, civil or inter-ethnic war are often too far removed from the everyday disturbances experienced by the populace to adequately characterise these impacts. Several authors have proposed more or less overlapping typologies of violent conflict, which include notions of violence against citizens, civil wars, guerrilla wars, coups, revolutions and riots. They have differentiated by participants and non-participants (Gupta 1990), between interstate, internal, and civil wars Singer and Small (1994), between conventional, irregular, and symmetric non-conventional warfare (Münkler 2005; Kalyvas 2006), and ethnic and non-ethnic wars (Sambanis 2001).¹² These definitions are useful for understanding conflict as a macro-phenomenon but are difficult to uphold at the micro level. These macro-level definitions do little to detect how a farmer loses income from the use of landmines or how the earning potential of a household changes as capable adults migrate.

We argue for a definition of violent conflict that views conflict from the micro-level perspective, broadly encompassing the forms and intensity of violence that impact the everyday lives of individuals, households, and communities. We define violent conflict as the systematic breakdown of the social contract resulting from and/or leading to changes in social norms, which involve violence instigated through collective action (Justino, Brück and Verwimp *forthcoming*). The systematic breakdown of the social contract signals that groups use some form of violence to contest the role of the state. The changes in social norms points to the transformative, as well as destructive, nature of conflict. The condition that conflict must arise from violent collective action stipulates that there must be some group interaction involved, rather than violence perpetrated at the individual level.

This notion includes a variety of conflict intensities spanning from violent protests and riots to coups, revolutions, civil wars, genocide, international wars and terrorism. It excludes forms of conflict grounded on labour relations that do not result in violence, such as strikes, lockouts and other forms of labour action; conflicts instigated by individuals for self-gain that have not turned violent, such as non-violent crime (including non-violent organised crime); and intra-household forms of conflict that do not necessarily degenerate into group violence, including domestic violence and bargaining processes within the household (Justino, Brück and Verwimp *forthcoming*). This definition is intended to capture the multiple ways that individuals and households experience violence at the micro level.

Similarly, we determine when a violent conflict starts and ends from the perspective of individuals and households rather than from a higher level. A conflict may start or conclude unevenly across a conflict-affected area. Lulls or spikes in violence may make it seem as if the conflict starts and stops rather than persists at a continuous intensity. Even after a conflict has subsided at the national level, the persistence of lower levels of violence and instability may continue to affect households and their members. Likewise, as conflicts draw to a close, changes in the identity of the belligerents may create new coping

¹² See Vasquez and Valerino (2010) for a review of existing typologies.

dilemmas for the population. Many individuals and groups living in conflict-affected areas find themselves responding, acting, and being affected by stages in between conflict and peace. Macro-level concepts of time period often miss these nuanced variations at the micro-level. For example, the Armed Conflict Termination Dataset uses a dummy that measures the termination of a conflict by recording at least one year of non-activity (Kreutz 2005). This definition may be relevant for an army general, who wishes to assess the probability of renewed conflict on the national level, but it may be far less relevant for a woman making the decision to walk alone at night or a household making the decision to hold or liquidate assets. We recommend a definition of conflict broad enough to capture these nuanced phases in order to understand how the conflict affects different people in different areas at its various stages.

We consider “conflict-affected areas” those that have experienced significant direct effects of violent conflict. We acknowledge that many violent conflicts only occur in some parts of some countries, making it important to distinguish between conflict-affected countries and conflict-affected areas.¹³ Conflict-affected areas are often difficult territories in which to run a survey, sometimes leading to their neglect in LSMS surveys and DHS. However, if researchers are serious about understanding the effects of conflicts, these areas should be prioritized. Some conflict-affected areas, however, may be very small compared with the national total. In these cases, a conflict would have to affect more than just a narrow subset of the population to warrant inclusion in a national survey.

We define violent conflict broadly. Contrary to many government-centered definitions of conflicts (UCDP/PRIO (2007)¹⁴, HIIK until 1991), the state does not have to be a participant. Kalyvas’ and Kocher’s (2009) findings show that disaggregated measures of violence “are essential for understanding the violence of civil wars.” As conflicts change frequently over place, time, and context, it is necessary to have a broad definition of conflict, while also establishing observable characteristics that can be easily captured through empirical data collection.

To be useful empirically, the definition of violent conflict must differentiate between levels of intensity. The HIIK’s Conflict Barometer and the conflict database COSIMO/CONIS¹⁵ distinguishes well between different levels of intensity at the macro-level. The database contains a spectrum, ranging from ‘sporadic violence’ used by one of the parties, violence repeatedly used in an organized way, violent force “used with a certain continuity in an organized and systematic way,” to force used with “extensive measures, depending on the situation” that creates massive and long-term destruction (<http://hiik.de>). Household and individual surveys can complete these definitions by more precisely identifying the types of violence, whether physical, sexual, verbal, or psychological, and the context of violence, whether home, community or the battlefield.

¹³ An example may be the civil war in Northern Uganda, which was devastating at the local level but had less impact in other parts of Uganda.

¹⁴The Uppsala Conflict Data Program defines “armed conflict” as a “contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths” (UCDP/PRIO 2007).

¹⁵ See <http://hiik.de/en/methodik/index.html>

3.2 The unit of analysis

The second methodological point in the design of surveys in conflict-affected contexts is the choice of the appropriate unit of analysis for different types of questions.¹⁶ Depending on the type of information sought, survey questions should be targeted at individuals, a central figure in the household, or a central figure in the community. The conflict exposure module concentrates on the individual and the household. Although violent conflicts are a collective process and are rarely based on individual actions, the multifaceted nature of conflict can be best understood by soliciting reactions from the individuals and households that make up the group. Conflict is multifaceted because the groups creating it and being affected by it are dissimilar entities. Groups are formed by the interactions of different individuals and their families driven by common, but not necessarily equal, interests and aspirations. These interactions take place at several cultural, social, political and economic levels. In our conflict exposure module, we are particularly concerned with understanding the processes of violent conflict. To understand violent conflict as a process, we must take account of the political, social, economic and cultural processes and the norms of interaction between individuals, households and groups that both affect and are affected by conflict.

The individual is the lowest level of analysis. Concentrating on the individual level allows us to account for intra-household issues and assess the impact of individual shocks, such as death, disability, disease, dislocation, and destruction. It also captures personal activities, outcomes and expectations. For instance, the 2001 Timor-Leste LSMS asks for information on ‘how did you live two years ago, before the violence in 1999, compared to how you live today?’ and ‘what has improved since the violence in 1999?’ Individual level approaches also enable researchers to gather information on group identification, such as ethnicity, or trust in others. The objective of using individual-level questions is to determine how individual decision-making—across gender, age and different socioeconomic backgrounds—responds to the impact of violence on livelihoods, wellbeing, and security. Individual-level surveys also capture specific individuals that may have been directly involved in the conflict, such as soldiers, refugees, and displaced people.

At the household level, the head or another member of household responds on behalf of the household. Household-level questions give the opportunity to assess the impact of shocks on households and the reactions of households as collective decision makers. Questions can target changes in access to services, markets, investments, and land, which may affect the entire household, even if only a few members are directly involved. Household-level questions can also be used to draw a broader picture about social relations and networks. Also, they may facilitate individual-level data gathering. Instead of asking every household member a question on harm inflicted directly, it may be more appropriate to ask the household collectively “was any member of your household injured or disabled during the war or when you were leaving your previous home?” (LSMS Azerbaijan 1995). The standard household survey is most useful as an instrument to identify violent conflict when it is relatively widely distributed in the population, because asking a larger group covers a higher number of potentially affected individuals.

¹⁶ For a discussion of methodology in practice see Green and Tony (2008); Verwimp and Bundervoet (2009); Bundervoet, Nillesen, Verwimp et al. (2009).

Community-level questions may be appropriate to uncover the extent of the impact of violent conflict, especially when violent conflict events are very concentrated in time and space. The community level survey, or survey component, can generate a conflict history that records the overall characteristics of localized events. This can be used as a starting point for designing household surveys and, crucially, to provide context when gathering time information. Community-level analysis may also allow for a more accurate determination of deaths across the community, for instance by examining listings of names in local administrative records. Moreover, knowledgeable members of communities often provide important qualitative and quantitative insights. Community-level surveys are also useful in the assessment of migration flows, of urgent needs of the community, and on the impact of policy interventions, particularly reconstruction interventions in the post-conflict period.

3.3 Time dimensions

The timing of surveys is decisive for information quality. As with most socioeconomic data gathering, the quality of people's responses on conflict tends to diminish as the time between conflict and survey widens. Yet in many instances, the intensity of conflict experiences makes them well-remembered and can allow the collection of quality data well after a conflict has ended. Much depends on the circumstances of the conflict and we can offer no general rule about how long after the fighting has ended quality data may still be collected. In general conflict legacies can last decades and, if anything, donors and governments ignore conflict legacies too soon. Indeed, the effects of conflict may even last for an entire generation. Researchers have used three main approaches to survey timing, including administering the survey while the conflict is on-going, administering the survey *ex-post* by asking respondents to assess before and after conditions, and making use of panel data.

If the violent conflict is still on-going at the time of the survey, researchers tend to use a 12-month reference period to elicit information on short-term effects of violent conflict on individuals and households. This reference period has a number of advantages. Its frequent use in other socioeconomic surveys may allow for comparability. This is especially true of the epidemiological literature, which frequently employs 12-month reference periods. Further, it is useful for gathering economic data that may contain seasonal effects, such as any indicator linked to agricultural or climactic cycles. However, before employing a 12-month reference period, researchers should take care that it is appropriate given the dynamics of the conflict. It may be that in the last 12 months, or in the period immediately before, a major conflict event significantly impacted respondents. This would make the reference period special, in the sense that conflict events significantly distort how respondents recall the immediate past. In these cases, it may be better to refer to the conflict event specifically in the reference period. Researchers may employ variants of prompting devices such as "since your village was attacked," "since the beginning of the conflict," or "since armed fighting ceased in your area."

Surveys cannot always be conducted so close to conflict events. When conducting a survey some time after a conflict, researchers have addressed the issue of temporal comparison by asking respondents to recall their living standards before and after the conflict. Many questions asked in LSMS surveys address the problems of missing *ex-ante* data by regularly using phrases "before the conflict" or "since the start of the conflict". These types of questions can create further time variation by asking respondents to

recall living standards at specific points during the conflict, usually demarcated by well-known events. Humphrey and Weinstein's (2004; 2008) work in Sierra Leone provide a good example of this technique. Their study creates a large degree of time variation by directing respondents to focus on specific periods during the war. *Ex-post* surveys can measure the impact of a conflict after the fact. However, the method introduces potentially severe biases, as respondents erroneously recall events and samples exclude important sub-groups.

Researchers can construct a panel dataset if they are fortunate enough to have access to a survey done before and reasonably close to the conflict. Panel datasets create rich time variation and minimize many of the concerns about biases prevalent in other methods. However, the follow-up survey must be especially careful to control for attrition. People in conflict-affected areas tend to be highly mobile or even subject to a high degree of mortality, making them difficult or impossible to include in the follow-up survey. These sub-groups within the original population may not be captured. When these groups systematically differ from the overall population, excluding them biases the sample. Verwimp (2000) showed that tracking could be possible in Rwanda, even with high mobility and mortality.

3.4 Biases

Research in conflict-affected areas takes place under unusual and often insecure circumstances, adding extra difficulties for researchers attempting to create a representative sample. Dangerous environments cause problems of access, with certain areas being inaccessible during the survey. This may even continue into the post-conflict period as governments bar researchers from sensitive areas, such as the current situation in Sri Lanka or Egypt. The entire area may be inaccessible, forcing researchers to rely on *ex-post* style surveys. The danger may cause large segments of the population to move or be killed, changing the characteristics of the sample from the original population. In addition, conflict may exacerbate biases that socioeconomic researchers deal with regularly. The intensity of conflict experience may lead respondents to give misleading answers or cause other self-reporting biases. Respondents may self-censor answers to avoid any risk of retribution from insecure political authorities. Conflict researchers have employed several strategies to minimize such biases. We will briefly discuss the most prevalent biases in conflict contexts, such as selection bias, recall error, problems of uneven access, and distrust of surveyors leading to misleading responses.

Selection bias – by group

Selection bias can bias samples by removing special sub-groups from the sample population. For example, declining economic activity during a conflict may spur entrepreneurial individuals to migrate out, changing the characteristics of the population left behind. Similarly, combatants may target specific ethnic groups during a conflict, forcing them to migrate or even killing them. Samii (2010) shows how survival in Burundi is non-random and correlated with important characteristics, such as whether the person had been a combatant. Panel datasets may suffer from attrition bias, a type of selection bias occurring when certain sub-populations cannot be reached in the second round of the survey. In conflict-affected contexts entire households may move or be killed due to violence, causing biases for panel surveys. When attrition may be a problem, the first priority is careful tracking. Annan, Blattman and Horton (2006) warn that skipping individuals or households may bias estimates towards the idle,

unemployed, injured and socially dislocated. In the SWAY surveys, the team expended great effort to track respondents, even crossing the country when necessary, and asked close family members to respond to an “absentee survey” on the respondent’s behalf when tracking was impossible. Neglecting to re-interview household members who moved in between the two waves of the survey, perhaps because of marriage- or work-related migration, may lead to biased estimates. Beegle, De Weerd and Dercon (2008) and Bundervoet, Verwimp, and Akresh (2009) have shown this to be the case for poverty estimates for Tanzania and Burundi respectively.

Obviously if respondents have died, tracking becomes impossible. Even in these circumstances researchers must take account of the biases created by attrition. Mortality is often linked to important characteristics, such as ethnicity, poverty, or participation in the conflict. In a study on poverty and convergence in Rwandan provinces using the Genocide Transition Survey data, Justino and Verwimp (2007) show how to employ a Heckman Selection model to correct for attrition bias when a significant proportion of respondents in a panel dataset have been killed. The method can adjust coefficient estimates by utilizing information captured in the error term to minimize the bias. Correcting for attrition bias clarifies their results on the impact of mortality on income, showing that deaths of adults related to violent conflict damage households’ earning potential but deaths related to non-violent disease help alleviate poverty by freeing resources otherwise spent on caretaking.

Selection bias may also be a concern in contemporaneous and ex-post surveys. Often surveys of this type base the sample on the current population in the conflict-affected area. This is relevant if the study targets the current population, but if the study aims to understand how the population existing *before* the conflict bore the impact of war, it must also create a sample that accounts for individuals and even whole households who may have died or migrated. The SWAY team (Annan, Blattman & Horton 2006) employed a technique they call “retrospective sampling” to create a sample of young individuals living in the area before the conflict. Household names from current World Food Program lists were randomly selected. These households were then asked to provide a list of all the youth living in their household in a prior year, generating a new sample of young individuals for random selection. This and other methods can be employed to help researchers generate a sample that has an equal likelihood of including individuals or households who have died or migrated out of a conflict-affected area.

Selection bias – by location

Access to conflict-affected areas may be uneven, introducing the risk of selection bias from excluding special areas. Arjona and Kalyvas (2008) report several interruptions in their interviews with ex-combatants in Colombia often due to certain areas becoming too insecure to survey. This required the researchers to repeatedly improvise (see also Kalyvas and Kocher (2009), Restrepo, Spagat and Vargas (2004)). Political constraints and sensitivities may cause similar problems. When access to areas or certain individuals and households depends on complex negotiations with state and non-state actors, those areas may tend to be excluded from surveys.

When researchers have no choice but to exclude an area, the imperative becomes choosing a sample territory that matches the population as closely as possible. In that way, researchers can avoid the

problem area while maintaining a convincingly unbiased sample. Budgetary and security concerns prevented the SWAY team from randomly choosing sub-counties in Uganda. Instead, the team chose a sample area that represented the population using key statistics to guide their choice. The sample matched the population by having representative proportions of new and old IDP camps, large and small land areas, and urban and rural populations. Even when researchers design samples with care, doubts may linger that studies excluding certain areas are free of biases. In these situations, researchers must draw conclusions about the wider population with care, pointing out the uncertainty over the sample.

Recall error

Recall error can become a major problem, especially in *ex-post* surveys. The length of the recall period has been a topic of discussion in socioeconomic, demographic and epidemiological surveys for a long time (Deaton 2001). Standard concerns over recall error are relevant, but conflict trauma may also produce effects that aid or reduce recall. When violence takes on serious forms, such as the death of a household member or the loss of livestock, surviving household members will generally remember the situation accurately due to its devastating effect. These events are often associated with dramatic events at the community level, which can be helpful in constructing localized event timelines. However, the reverse scenario is also possible. Respondents may repress traumatic memories or even refuse to talk about them. Training and sensitization for enumerators can alert them to the potential for these biases.

Many LSMS questions on conflict ask for information long after a conflict has ended. The situation of the households and individuals in Serbia was first investigated a full 7 years after the official end of war. Likewise the conflict in Bosnia and Herzegovina was investigated 6 years later and in Iraq 5 years later. With such long lag periods, the standard survey approaches may not be adequate to capture the short term effects of these conflicts. However, cohort analysis may be the only avenue for generating quality data even with long lag periods. The same holds true for investigating the economic, social and political recovery efforts made by these households after the conflict. Longer recall periods reduce the quality of the survey data and researchers should make every effort to conduct *ex-post* surveys as recently after the conclusion of the conflict as possible. Post-conflict surveys are best conducted immediately after the conflict, with a follow-up survey to be carried out several years later.

Recall can be aided by using event timelines that stimulate the respondent's memory and accurately situate personal events in time. Timelines use well-known national events or a locally created history to anchor personal events in a well-remembered context. For example, respondents may remember the period between an important election and the beginning of a military offensive, or the period surrounding an attack on the town or village. Humphrey and Weinstein (2004; 2008) use this method to discover changes throughout the war in Sierra Leone. They direct each respondent to focus on a single period, creating time variation across the war years. Timelines also aid researchers in making their surveys time-sensitive. Timelines directly connect the impacts on respondents and changes in behaviours to key events over the course of the conflict.

Distrust and misleading answers

If the survey sponsor is viewed with distrust or suspicion, respondents may give misleading answers to questions or even refuse to cooperate entirely. In some post-conflict situations, government-sponsored surveys run this risk, especially while being administered in former rebel-held territories. This may create a bias if questions on conflict are included, as the responses of those most affected may be inaccurate or absent. In the extreme, lingering animosity towards the government might be so strong that discussing conflict could unsettle a vulnerable peace and put survey workers security in jeopardy. Distrust of the surveyor's intentions could lead to surveyors dropping conflict questions. For example in the LSMS survey in Guatemala 2000, the authorities asked relatively few conflict questions, although the conflict had only recently ended, because they feared that the population in formal rebel territories would refuse to participate. The government's priority was to generate socioeconomic baseline data to support the restoration of government services and information about the conflict was deemed too risky to collect.

3.5 Ethics

Risks for respondents

Conflict surveys often ask sensitive questions that may risk doing harm to respondents. Researchers have a duty to weigh important ethical considerations while designing and implementing surveys. Sensitive questions may evoke traumatic memories about suffering, remorse, victimization or guilt, potentially "re-traumatizing" respondents and harming them psychologically. The answers to certain questions may also risk incriminating or inviting retribution upon a respondent. If answers inadvertently become public, responses that identify perpetrators, victimization or actions taken as a combatant are particularly susceptible to this risk. When the research demands that these questions be asked, privacy becomes a key concern.

Several mechanisms have proved useful to address and minimize potential ethical risks. The first and simplest way is to avoid asking sensitive questions. Researchers should be self-critical about whether questions are strictly necessary, potentially harmful or if there are less risky ways of obtaining the same information. Eliminating sensitive questions reduces the risk to respondents and shortens the survey, easing implementation.

To limit the risk of harm, it is generally better practice to ask about group behaviour rather than asking for specific names of perpetrators. Uncovering the identity of the perpetrator may threaten the security of the respondent by opening him or her to reprisals. This may prompt the respondent to provide a misleading answer or refuse to answer entirely, reducing the quality of the data and potentially stressing the respondent. In these and other questions, surveys should avoid posing questions that could threaten the security of respondents and interviewers.

Conservation researchers have recently employed "randomized response techniques" to encourage truthful responses by giving respondents deniability over their statements (St John et al. 2012). The technique conditions responses on the roll of a die, which only the respondent can observe. If the respondent rolls a specific number, the respondent is instructed to give a fixed response irrespective of

the truth. For example, for a roll of a one, two, three or four, the respondent gives a true response. If the respondent rolls a five then he or she answers “yes” regardless of the truth. If a six, the respondent answers “no”. The technique gives respondents deniability, since ex-post it is impossible to determine whether compromising responses were true or fixed by the die. The technique gives an accurate measure, since the proportion of fixed responses is known and any statistically significant movement away from the fixed proportion in the sample provides a measure of the true responses (St John et al. 2012). This technique is best suited to binary variables, limiting its applicability. However, although this technique provides some protection, researchers should still guard answers closely. If survey answers become public, the technique may be misunderstood, exposing respondents to the risk of incrimination.

When asking sensitive questions, researchers should pay close attention to training their enumerators. Survey leaders can inspire a sense of duty among enumerators by explaining clearly their responsibility to care for respondents. Ethics training,¹⁷ in full or reduced form, sensitizes enumerators to the risks respondents face and shows examples of poor past practice. This greatly helps enumerators become more ethically sensitive. Training naturally creates a rationale for security procedures that provide the adequate level of privacy protection, making the survey team more vigilant and committed to ethical sensitivity. In addition, training helps make enumerators more aware of the emotional dangers of addressing sensitive issues surrounding conflict. The enumerator will naturally be the first responder should a question cause emotional harm to a respondent. Thus, sensitizing enumerators beforehand helps protect respondents.

In particular, enumerators should be trained to carefully elicit informed consent from respondents before giving a survey. A well designed consent script is important. Consent scripts should be written in accessible local vernacular. They should explain that participation, at all or in part, is completely voluntary, how the survey information will be used, and that information will be kept confidential. When consent is given verbally, as in areas with low literacy, enumerators should be trained to deliver the consent script painstakingly and answer any respondent concerns or questions.

Detecting and responding to a harmful event

Researchers should be ready to respond should a harmful event occur, such as clear distress or elevated risk for a respondent. There is no single definition of a harmful event and much relies on the judgment of survey implementers. However, some guidelines can help survey implementers to detect a harmful event. A harmful event may take the form of:

- a breach of confidentiality, perhaps from the theft of a computer, completed survey materials, or a break-in to where survey materials are stored;
- becoming aware of life-threatening risks to respondents;
- a display of acute emotion such as weeping or shouting at the enumerator after a question;
- an unusual number of respondents refusing to participate, especially if suddenly.

¹⁷ Two online American Institutional Review Board-approved ethics trainings can be found at <https://www.citiprogram.org/Default.asp?> and <http://phrp.nihtraining.com/>.

Researchers should respond promptly if a harmful event does occur. If a serious breach of confidentiality or threat to a respondent's life occurs, researchers need to approach the appropriate authorities and inform respondents of the danger. In conflict-affected areas, the appropriate authority may not be immediately obvious and researchers should lay out contingency plans for action in advance. If respondents display signs of psychological harm, researchers should immediately pause the survey and reiterate that responses are completely voluntary. The needs of the respondents should be prioritized ahead of collecting data and the survey should only be continued if it is clear that the respondent consents and that continuing will not cause the respondent undue harm. Should the severity of the harm call for further action, researchers should be ready to seek help from the appropriate social services. These services may be thin on the ground in many resource-poor contexts. However, researchers can often find professionals that can lend support by introducing themselves to local government and NGO actors before beginning the survey.

4. The conflict exposure module

This section explains the approach, structure and choice of questions in the conflict exposure module. We will discuss each of the module's topics individually. We begin the survey with a standard household roster, capturing all current members of the household, and a leaver's roster, capturing all members who have left the household immediately before, during or after the conflict in question. The module topics (A-G) were constructed to allow the identification of the main direct and indirect channels whereby conflict may impact individual and household welfare and behaviour outcomes (Justino 2009). These channels include: household composition (4.1); changes in economic welfare (4.2), including changes in income (4.2.1), assets (4.2.2), and food consumption (4.2.3); changes in household activities, including coping strategies (4.3); changes in health and nutrition outcomes (4.4); displacement (4.5); and education (4.6). We conclude with a section on perceptions of security, life satisfaction and expectations of the future (4.7). Throughout the discussion in the sections below, we will discuss how to incorporate time and violence intensity dimensions into the questions and potential conflict self-reporting answer choices in order to better understand conflict as a process of change for individuals, households and communities.

4.1. Section A: changes in demographic characteristics

Section A identifies the effects of violent conflict on changes in the composition of households. These effects typically take place through birth (Schindler and Brück 2011), death or migration. Section A 1-3 measures individual migration and death while section A 4-5 connects this information to specific dates and the age of the individuals affected. The time variables allow migratory and mortality events to be connected to different conflict phases.

In addition to physical changes to household composition, conflict also causes fear (of death, separation, relations and so forth) and psychological distress, which may affect the long-term welfare of households and individuals. Psychological trauma, low family connectedness, abduction, and orphanage in turn predict poor labour market success (Annan, Blattman and Horton 2006). Depending on the

characteristics of the members who leave or join, migration, death and psychological trauma may lead to changes in productivity and income, which may result in long-term asset and human capital losses.

A1: In case [NAME] joined, what was the reason for joining?

While some household might lose members due to conflict, others gain new ones. New members might add additional burdens or new productive members to a household. The information on new household members can reveal some of the effects of conflict on household composition that result from population movements. The reasons for individuals joining households can be directly or indirectly related to conflict, as in question A1 on out-migration. The module covers several conflict-related scenarios for joining households that are often neglected in existing surveys, such as changes in marriage status, security, employment opportunities, discrimination, and the experience of violence. The increased need for protection as a consequence of conflict is one particularly important scenario motivating people to move into a household. SWAY's household questionnaire, for example, asks directly whether orphans have "come to live with you because they have lost their other family." People might also be in search of protection for other reasons than the loss of their family members, such as the destruction of their houses or loss of key assets.

A2: In case [NAME] died, what was the cause of death?

The objective of the module is not to construct an estimate of death tolls but rather to uncover their causes. We have therefore designed this question to cover several conflict scenarios that will allow survey users to understand more precisely when and under which circumstances deaths in the household are related to violent conflict. The answer categories cover both direct and indirect conflict effects.

The most direct way a conflict kills is to incite armed violence, most obviously in the form of clashes between armed groups or attacks on communities. The answer categories take care to single out death from 'combat' situations from 'non-combat' violent death, in order to distinguish between violent death caused by armed combatants and other violent deaths not caused by combatants. With this distinction, survey users can more precisely estimate the direct consequences of violent conflict on household mortality and separate them from other violent events such as crime, or gang activities, which are also prevalent in conflict settings. Some existing surveys already contain similar information, albeit in more limited forms. The Darfur Refugee Questionnaire (2007) includes "murder" (DRQ 2007) as part of the answer categories on the question of why somebody is not a member of the household anymore. The LSMS in Timor-Leste 2001 asks whether the person "died in violence" and "died, not in violence". These categories are informative, but fail to identify a comprehensive range of how conflict may lead directly and indirectly to violent death.

Mortality may be unrelated or indirectly related to conflict. The reason for death can also be indirectly connected to the vulnerability of other household members due to illness or isolation. Conflicts are linked to higher likelihood of mortality from diseases and malnutrition. The linkage exists due to the loss

of shelter, the degradation of infrastructure preventing access to hospitals, the collapse of the insurance systems, poor sanitation and lack of safe water supplies, as well as the spread of infectious diseases (Nathanson 2000; Guerrero-Serdán 2009; International Committee of the Red Cross 2009) and lack of appropriate nutrition (Bundervoet, Verwimp and Akresh 2009). The answer categories address these unrelated or indirectly-related causes of death, providing a comprehensive range of mortality options.

A3.1-3.3: In case [NAME] has left, what was the reason for leaving? In case [NAME] has left, what education did [NAME] have at the time of leaving? In case [NAME] has left, what did [NAME] do for a living before leaving?

The reasons why a person leaves the household can provide the first direct information on the impacts of conflict. Violent conflicts can lead to the disappearance of people, forced or voluntary internal displacement, (forced) recruitment, and hostage-taking. This question is the first instrument we use to analyse the effect of conflict on population movements. The answer categories cover several manifestations of conflict and violence including recruitment, destruction, violence, insecurity, imprisonment, abduction, and threats, in addition to standard categories for household composition change included in socioeconomic surveys such as education or marriage. Answers to this question may also reveal early responses to conflicts, such as migratory movements that may have taken place due to ‘political reasons’.

The answer choices take special care to differentiate between several nuances in conflict scenarios. A distinction is made between voluntary and forced recruitment, as forced recruitment, including abduction, often has important welfare impacts. Furthermore, the answer categories include political discontent and imprisonment as a motivation for migration. The answer choices also give respondents the opportunity to reveal reasons for migration not necessarily related to the conflict, such as leaving for marriage or work. These answer options assess the relative importance of conflict-related household events, but may also be used to analyse how conflict may indirectly influence behaviour. For example, increased occurrence of marriages might be indirectly linked to conflict as a response strategy to a lack of protection and educational opportunities.¹⁸ Similarly, conflict may indirectly drive individuals to seek work outside a conflict area. These relationships can be uncovered with statistical methods that identify links between conflict events and ostensibly unrelated behaviour.

Those leaving the household take their human capital and income-earning potential with them. Thus, depending on the capacities of the leaver, a household may be seriously or marginally affected. We include questions that determine the education level and employment status of the leaver before his or her departure. This allows researchers to measure the human capital or income contribution of the leaver to the household and indicates how the conflict has impacted the household’s capacity to provide for its members. To some extent, these losses may be offset if the leaver continues contributing to the household through remittances or will eventually return to the household after acquiring new skills or

¹⁸ Annan, Blattman, Mazurana and Carlson (2009) have recently shown how even the rebel groups themselves might use forced marriages to enhance control of their forces and as an instrument of protection against HIV.

education. We do not include questions that determine the level of remittances or expectations of future education gains; however, we acknowledge that these measures would be an important component to a study focused in this area.

A4-5: Date of leaving/ date of death/ date of joining; How old was [NAME] when he left/died/joined?

Reflecting the importance of the time of events during conflict, as discussed in previous sections, the module includes questions about the date of each change in household composition (A4). The time variable is crucial for revealing how changes in household composition may be linked with particular times in the conflict processes. The time variable also reveals how conflict dynamics evolve across different periods by allowing for a disaggregation of respondent behaviour between each phase of the conflict.

The age of the person leaving, joining or dying is a good proxy for changes in household dependency ratios (A5, date of birth). This variable in turn may proxy the capacity of the household to earn income and provide for its members. The variable will also allow the collection of information about orphans and child-headed households, which will allow users of the survey to categorise and target vulnerable individuals (Annan, Blattman and Horton 2006). Additional questions on the age of people leaving the household (A5) might be interesting for the analysis of the strategies of the warring parties to recruit or abduct people (Annan, Blattman and Horton 2006).

4.2. Section B: economic welfare

This section records the possible impact of violent conflict on household's economic welfare, in particular by identifying changes in income status, asset endowments, and food consumption. The questions proposed in this section were designed in order to determine how violent conflict creates economic shocks for the household and to establish the intensity of those shocks.

We start the section by identifying groups of people that may have experienced severe losses of income due to conflict (B 1.1), the duration of these losses (B 1.2.), and the reasons that they occurred (B 1.3).

B 1.1: Did your household experience severe losses of income since the outset of the conflict [SPECIFY PERIOD OF TIME IN CONTEXT]?

B 1.2: What was the longest period of interruption?

B 1.3: We would like to specify the reasons for the losses of income. Did you experience any of the following?

Conflict and violence can directly and indirectly affect the ability of households to generate income (Ibáñez and Moya 2009; Justino 2009). The questions below build on standard non-conflict surveys in order to generate information on changes in household income status in contexts of conflict and violence. The design collects income data from labour, finance and agriculture in sequential form, enabling a full picture of household income sources. This improves on many LSMS surveys that tend to

spread income information over several modules, broken up by sector, which are not always fully comparable.

Our 15 answer choices in B 1.3 cover many conflict scenarios that may lead to income losses, including the lack of employment opportunities, insecurity and infrastructure destruction, military service, curtailed investment capital, social restrictions, and setbacks in health.

Loss of opportunity to work

Conflict may deny people the opportunity to work for a number of reasons. The uncertainty created during conflict may cause enterprises to close and employment positions to disappear (Brück, Naudé and Verwimp forthcoming; Brück, Naudé and Verwimp 2011). This may even be deliberate, as destroying the enemy's economic strength is one possible strategy to wage war. This strategy can explicitly or implicitly target civilians¹⁹, affecting off-farming employment opportunities and reducing income. To capture these cases, we include "lack of employment opportunities" in the answer choices.

Similarly, the disruption or destruction caused by conflict may remove the assets, inventories, or manpower required to run a business. These may include the machinery, stocks, buildings, dwellings, or regular employees of entrepreneurs. These losses prevent the proper functioning of business and thus deny the opportunity to work. To capture these eventualities, we include the categories "loss of necessary assets or inputs/destruction of dwellings" and "lack of manpower". In this case the timing variable becomes important for determining the ultimate cause of the income loss. Respondents may report that the direct cause of the income loss is the "lack of manpower", when the ultimate cause is a conflict event such as a renewed offensive campaign preventing workers from going to work. In these cases, matching the responses to conflict event databases reveals the links to conflict.

Insecurity and infrastructure destruction

Naturally, insecurity is a major cause of income loss. Insecurity may present itself as a general concern or may arise from specific sources, such as the use of landmines. In the conflict exposure module, we include these concerns together in a single answer option. The breakdown of law and order may lead to prevalent crime and vandalism also causing income loss. We allow respondents to identify this source of income loss specifically.

The destruction of infrastructure and heightened insecurity may also limit access to markets, affecting those households that rely on market exchange to make a living. Markets may dissolve as entrepreneurs face too high a risk of being harmed or losing their goods in public markets. As infrastructure deteriorates, enough market participants may be kept away that trade is significantly reduced or stopped entirely. Similarly, disruptions to markets may cause artificial scarcities of necessary goods and play havoc with prices. Rapid inflation or price volatility may similarly disrupt business and lead to

¹⁹ For a recent survey of Entrepreneurship and Conflict we refer to Brück and Verwimp (2010), WIDER Working Paper, forthcoming. See also answer category 'enterprise doesn't work because of war and other difficulties' (LSMS Bosnia-Herzegovina 2002).

income losses (Singh, Squire and Strauss 1986). We allow respondents to point to their loss of access to input markets, output markets and price inflation as the source of their loss of income.

Some of these effects have been captured by existing surveys. The 2006 Iraq LSMS asks reasons for why respondents did not work “even for an hour, during the last 7 days?” One of the answer categories is “due to security situation”. We build on these types of questions by designing more comprehensive answer categories in order to capture different aspects of living with violence in conflict-affected areas.

Military service and extortion

Military service can interrupt work, leading to setbacks in terms of earnings and productivity capacity.²⁰ On the other hand, military service may also act as a coping strategy followed by people to protect themselves and their families economically and physically (Annan, Blattman and Horton 2006; Justino 2009). In addition to direct effects on income, recruitment may indirectly shape household levels of productivity by reducing household labour supply. This answer category enables survey users to capture these important effects of violent conflict on individuals and households. As in the demographics section, the distinction is made between forced and voluntary military service.

Payments to warring groups may act as a coping strategy for households, allowing them to receive some protection. Payments may be voluntary but often they are the result of extortive practices initiated by the warring parties. Submitting to extortion may create stability for entrepreneurs and act as a substitute for functioning security services; however, in the extreme the payments may take a large toll on income. We allow respondents to point to this as a cause of income loss.

Curtailed investment capital

Conflict is often associated with reductions in investment capital and investment opportunities due to its effects on savings, on access to credit markets, and on informal risk-sharing networks (Justino 2008; 2009). The conflict exposure module includes “no credit available” as a potential source of income loss, thereby allowing the collection of important data that has not been gathered in past surveys. In particular, the questions in this section ask about credit markets in connection to income changes *during* conflict.

Social restrictions

Conflict may create new social restrictions, aiming to exclude some people from work or access to credit due to their ethnicity or gender (Brück and Schindler 2009; Brück and Vothknecht 2011; World Bank 2005). Two LSMS surveys demonstrate how surveys can reveal the connection between social restrictions and income loss. Iraqi respondents were asked in 2006 “why don't you want work (or work more)?” Respondents could reply, among other options, that “social restrictions” prevented work as well as that the security situation was too risky (LSMS, Iraq 2006). In the LSMS in Kosovo in 2000, respondents could indicate whether the main reason for losing a job was ‘discrimination for ethnic

²⁰ In the LSMS in Bosnia-Herzegovina (2001-2004) the respondents could reply directly whether they ‘stopped working’ due to ‘military service’ (another option was ‘displaced’).

reasons'. Like these surveys, we include 'discrimination' as an answer category for the question on the reasons of income losses.

Setbacks in health

Injuries and psychological distress may also result in short- and long-term impacts on health, reducing productivity. Annan, Blattman, and Horton (2006) find evidence for this in Uganda. They ask directly whether respondents associate their income losses with these setbacks, obtaining more detailed information on respondents' causal perceptions of their losses. Another possibility, often used in surveys in conflict-affected countries, is to specify whether respondents or other household members have been injured and the severity of the injury. The NULS (2007) for example asks whether the person finds it difficult to go out without the help of others due to a chronic health problem or handicap ('yes, a bit difficult' and 'yes, definitely'). In our answer categories, we ask directly whether setbacks in health, specifically caused by violence, have had an effect on income.

B 2.1: Were any of the following assets considerably destroyed, lost or robbed because of the violence or displacement?

B 2.2: When exactly did this occur?

B 2.3: What was the overall value of the item at the time that it was lost? (SPECIFY CURRENCY)

B 2.4: Who was responsible for the destruction or theft? (SPECIFY IN CONTEXT)

Assets are important mechanisms of self-insurance in risky environments but may be at risk of being destroyed or looted during violent conflict (Brück 2004; Bundervoet, Verwimp and Akresh 2009; Justino 2009). Answer categories to B 2.1 include a comprehensive range of asset types, capturing information on key assets that are used as insurance, stores of value, protection, and for production. Existing surveys in conflict-affected areas tend to focus on large-scale asset losses, such as the destruction of household dwellings. The destruction of dwellings affects people in many severe ways, not only reducing economic and physical security but often causing displacement and other forms of forced migration. However, other assets may also be of considerable importance for the economic security of households living in areas of conflict and violence.²¹ These assets may include hoes, ploughs, tractors, and torches, which are of key importance for rural livelihoods. During episodes of violent conflict, survival may also depend on mobility and communication, making bicycles, motorcycles, cars radios, TVs, and cell phones essential for households. These items typically rise in value during a conflict (Ibáñez and Moya 2009). When people flee or migrate, documents and certificates, especially birth certificates, also become important. Including these asset types in answer categories is important to comprehensively cover the impact of conflict on assets.

²¹ In sections on 'Institutions and Infrastructure', 'Dwelling' or 'Housing', the LSMS has captured these experiences in a variety of direct and indirect ways. In the context of post-conflict reconstruction, the focus is on the estimation of the extent of destruction to the dwellings, i.e. 'almost completely destroyed', 'significant damage', 'moderate damage', 'only slight damage' (Timor-Leste 2001; see also Tajikistan 1999, and Bosnia and Herzegovina 2001-2004).

As with income losses, recording the timing of asset destruction or theft is important. Timing information traces the dynamics of the conflict. The timing of asset losses may link destruction with a major offensive campaign or reveal how security conditions slowly degrade as conflict endures. Further, the timing variable may allow researchers to generate time variation in the survey even when evaluating after a conflict has ended.

Another key consideration is the value of asset losses. Ascertaining the value of lost or stolen assets may allow researchers to estimate the total losses accruing from conflict. The value of assets may change considerably in conflict contexts, exposing people to greater vulnerability. Many assets are stores of value during peace time but depreciate substantially during a conflict. Distress sales of vulnerable assets, such as livestock or grain stores, may drive down asset prices when households need cash most.

Additionally, researchers can combine value information with the identity of the perpetrators to estimate who benefits from looting and by how much.²² This helps researchers understand the economic structure of conflict, providing some grounds for estimating the financial incentives for participation. Care must be taken when attempting to identify perpetrators. Respondents may be exposed to the risk of retribution, should it become public that they identified those responsible for wrongdoing. While identifying those responsible may yield valuable information, researchers should be self-critical about whether the gains justify the added risks to respondents.

Food consumption

Declining food consumption is a major indicator for the extreme impact of conflict on welfare. In some instances, food insecurity may also be a contributing cause of conflict. Unlike income, which can fluctuate dramatically in times of crisis, food consumption tends to be smoothed by drawing down savings or stores, allowing people to meet their basic needs. We measure severe declines in food consumption to capture instances of extreme shocks to welfare and to reveal the households that are the most vulnerable.²³

- B 3.1: Did your household experience severe declines in food consumption or hungry periods before the conflict or since its onset [SPECIFY PERIOD OF TIME IN CONTEXT]?**
- B 3.2: What was the longest period of interruption?**
- B 3.3: We would like to specify the reasons for the fall in food consumption. Did you experience any of the following?**
- B 3.4: When exactly did you experience it for the first time?**

Hungry periods can be a cause or effect of conflict. Food insecurity globally may to a great extent be the result of conflict rather than a general state of low productivity (Messer et al 1998). We design our questions to capture hunger as a cause and consequence of conflict by allowing respondents to

²² We assume here that detailed questions about changes in livestock are either included in the agricultural module or in a separate livestock module.

²³ We assume here that detailed questions about food consumption and nutrition are included in the consumption or welfare module.

reference hungry periods that predate conflict's onset as well as those that result from conflict. We suggest defining a "severe decline in food consumption" as the equivalent loss of one meal a day for at least a week. We also identify the length of the hungry period as a measure of intensity.

The fall in food consumption can have many causes, sometimes even related to the strategies employed by warring parties. We set out a range of conflict-related causes that can be differentiated broadly into difficulties accessing markets and intentional destruction or theft of food. Respondents who rely on markets to meet their food needs may be highly vulnerable should they be cut off from markets by degraded infrastructure or insecurity. The markets themselves may dissolve, as participants face insecurity or other difficulties. Food price spikes may erode the real income of a household so severely that they cannot meet basic consumption needs. Respondents may also suffer from the destruction or theft of crops and livestock, as a result of opportunistic looting or even as an intentional strategy employed by warring parties. Conflict may indirectly cause hunger by destroying savings or curbing the flow of income to the very poor. We include answer options in our module to capture these scenarios.

4.3. Section C: coping activities during conflict

How do people adjust to the challenges and changing incentives brought about by conflict? Answer categories on the coping strategies of individuals and households may provide valuable information for policymakers. The extent to which people can shelter themselves from the ill effects of conflict reveals the immediate and long-term impact of violent conflict for the country as a whole (Food and Agriculture Organization 1996). Coping strategies in risky environments can take different forms. We split these into *ex-ante* and *ex-post* strategies. Households may employ *ex-ante* coping strategies when they anticipate changes by adjusting their behaviour before the shock takes place. Selling livestock before a conflict is one example. Households may employ *ex-post* strategies when they react to changes in opportunities due to insecurity and violence. There are very few surveys conducted in conflict-affected contexts that include detailed questions on individual and household coping strategies, although the Mozambique National Agriculture Survey offers good examples of questions about activities followed by people to "compensate" for losses in income or assets.

Our module collects information on coping strategies during and after violent conflict, allowing researchers to understand the extent to which people in conflict-affected areas are able to offset the welfare impacts of violent conflict. The following sub-sections outline our approach to the issue of coping strategies in the conflict exposure module.

C1: Have you or your household members changed your economic activities as a result of violence [SPECIFY TIME PERIOD IN CONFLICT]?

C2: Compared to before the conflict [SPECIFY PERIOD OF TIME IN CONTEXT], does your household [INSERT ACTIVITY HERE] more, less or about the same?

We ask household members whether and what type of changes they made to cope with the shock of conflict. In each question, we pay close attention to the timing of changes to distinguish between *ex-ante* and *ex-post* strategies. Our comprehensive answer categories can be classified into 3 types of

adaptive behaviour: crops and livestock, consumption and investment, and social interaction and reliance.

Crops and livestock

In the face of violence, households tend to change their production portfolios. Brück (2004) describes how coping strategies can become very risky during periods of war, reinforcing people's levels of economic vulnerability. War-affected households may also withdraw from markets completely and resort to forms of subsistence agriculture. Equally, while owning livestock may be a profitable and secure economic strategy in peace times, it can become quite risky in wartimes due to the collapse of markets, services or the danger of theft (Bundervoet 2006; Verpoorten 2009). However, not all farmers uniformly move into subsistence activities during war time (Nillesen and Verwimp (2010). Detailed and comparable information on the different types of economic activities adopted by households before, during and after conflict can help to address the impact on agriculture in future research.

Consumption and investments

One common strategy used by individuals and households to deal with economic shocks is to cut back on the number and quality of meals or making use of food storages. Price increases of local food during and after a conflict may contribute to such a strategy, which will have detrimental impacts on the nutrition of household members, children in particular (Ghobarah, Huth and Russett 2003; Bundervoet, Verwimp and Akresh 2009; Guerrero-Serdán 2009). This may lead to severe long-term losses in human capital (Alderman, Hoddinott and Kinsey 2006). Households may also engage more in sharing food with others. Annan, Blattman and Horton (2006) find evidence in Uganda that broader family and social connections can improve nutrition even more substantially than strong immediate family connections.

Reliance on social interactions and external assistance

Another common coping strategy is the increased reliance of vulnerable households on transfers and assistance, either from state institutions or more commonly from family and extended social networks (Platteau 1991; International Committee of the Red Cross 1999/2009). This issue is typically a major focus of post-conflict reconstruction surveys and we have followed and built upon available survey instruments in designing this part of the module.

Violent conflict profoundly impacts levels of engagement in social networks. Community norms and relations may improve due to the need for cooperation (Bellows and Miguel 2006, Bellows and Miguel 2009) or may be damaged due to disorder, oppression, and betrayal, as well as the destruction of traditional ties, organisations, and habits (Colletta and Cullen 2000). Damage to community norms may be reinforced by increased levels of distrust and violence. The LSMS in Kosovo 2001, for instance, indirectly addresses this issue in a section on "business assets", by looking at networks. Several questions are asked on whether and how often members of the household have joined "other members of [the] community [to] come together to address a common concern" or "to approach an official (government and/or NGO) for assistance with a common concern." It also includes questions on how far people rely for assistance on their neighbours, friends, community leaders, or religious leaders. Our module captures these changes by asking about respondents' engagement in social networks and

relating these to local conflict events. In addition to common questions, we ask whether people may decide to share a dwelling if, for example, their dwelling was destroyed.

C3: Did any member of your household take any of the following steps in/during [SPECIFY PERIOD OF TIME]?

C4: If so, when exactly did you introduce this measure?

C5: What was the main reason?

The relationship between civilians and armed groups may comprise important communal coping mechanisms, having a major influence on the dynamics of the conflict. The ex-combatant surveys we reviewed generally address this relationship in detail. However, links between this relationship and socioeconomic contexts of civilian households are typically limited. We include questions on the interaction between household members and combatants, such as instances of household members joining the official police, joining rebel groups or joining the military. We are interested in going beyond the mobilisation process and looking at other attempts to adjust to new or old authorities, such as the payment of contributions to rebel groups and attempts to bribe governmental officials or rebel groups. This information will advance our understanding about the type of governance that rebel groups or the military establish during civil conflicts (Justino 2012, Sabates-Wheeler and Verwimp 2012). Moreover, the household may also try to engage in local self-protection independently of any warring parties by joining or establishing community policing or neighbourhood watching, procuring weapons, acquiring guard dogs, employing watchmen, improving house security, or resorting to traditional remedies to increase protection.²⁴ The inclusion of these types of questions could provide us with important indicators of local political transformation processes, which so far have remained unexplored in the literature (Justino 2009).

The module includes also questions on reasons why certain decisions have been made to better understand the motivations and attitudes to political transformation. These questions uncover whether people act, as predicted in the greed-grievance debates, out of material interests, out of forms of grievances, emotions, or discontent, or as a way of self-protection (Justino 2009; Kalyvas and Kocher 2009). We also ask questions regarding “connections with influential people” and whether these are used for protective reasons, such as accessing advanced information, which might be essential for survival and the decision to migrate. We ask additional questions on whether people try to avoid participation in the community, perhaps due to distrust; whether they increase it through forms of ‘information’ or ‘protest’; or whether they change patterns of visits to markets to avoid material losses or for protective reasons.

We have linked every action directly to its driving motivation. This provides subjective information on the reasons behind adaptive behaviour. Reasons are split into 6 categories: “increase income/productivity”, “respect”, “express protest”, “protection”, “information” and “distrust”. The

²⁴ “Traditional remedies” was one of the answer categories in the 2004 Malawi LSMS survey, for the question “What steps have you taken to protect yourself from crime in the past year?”

question on the timing of the initiation of coping measures (C4) is particularly important, as it allows us to distinguish between *ex-ante* and *ex-post* coping strategies.

C6: What type of harm or type of violence is this measure going to protect you from (state the main purpose only)?

We are particularly interested in understanding the types of violence from which people seek protection.²⁵ Answer categories include experiences of discrimination and exclusion, such as physical threats, intimidation, harassment, incursion, or insults; actual physical violence, such as rape and beating or assault; and those that are more likely to be experienced in a combat, such as the loss of body parts.²⁶ We include further categories that might to be expected in unconventional wars such as forced labour, kidnapping, and extortion (Kalyvas 2006; Kalyvas and Kocher 2009). Other categories include robbery and witchcraft.

These questions identify decisions that respondents and their immediate families make to prevent future harm and improve safety. The questions link protective measures to different types of perceived threats. Combined with the timing information collected in the next section on harm to household members, researchers can identify whether respondents took protective measures before the actual harm was inflicted, as an *ex-ante* coping strategy, or in a response to past experiences, as an *ex-post* coping strategy.

4.4. Section D: harm and health

D1: Do you consider [type of abuse] as violence?

Injuries have serious implications. “Bullet wounds, shrapnel, and back and chest pain from beatings and carrying heavy loads” caused by the LRA in Northern Uganda have been linked to higher likelihood of future unemployment, to lower wages, and to increased deprivation, social dislocation, and vulnerability (Annan, Blattman, and Horton 2006: 44, 47). Capturing the brutality of violent conflicts is a very delicate task. Before attempting to identify the harm inflicted by violence, we strongly suggest identifying context-specific definitions of violence (D1). Specific definitions may include any combination of physical, verbal, psychological, or sexual violence. The international crime victim survey and the European crime and safety survey collect information about sexual offences, such as the number of offenders, whether the offender was known, and what weapons were used.²⁷ In their design, they consider that the threshold of what is considered to be “violence” may be different between countries. Definitions of violence may be more similar across people living in urban areas (Van Dijk, Kesteren and Smit 2004/5: 38). We incorporated a modified version of the question from the Colombian DHS (1995) to identify what is considered to be violence in the local context. Throughout the module on health and

²⁵ Partly adopted from LSMS Malawi 2004.

²⁶ See WHO (2004: 60) for some guidelines on this question.

²⁷ Moreover, they incorporate questions on the reasons for owning a gun.

harm, respondents can record several instances of maltreatment, providing corresponding details for each instance in the space provided.

D2: Have people in your household or have you experienced any of the following? (MULTIPLE ANSWERS)

D3: Who was the person experiencing the harm?

Many surveys have well-designed sections gathering information on physical harm. We have borrowed from several LSMS surveys in designing our module. The 1995 LSMS survey in Azerbaijan and the 1999 LSMS survey in Tajikistan asked respondents in the migration section whether “any member of [their] household was injured or disabled during the war or when [they] were leaving [their] previous home.” Other surveys offer more concrete information, giving researchers a better understanding of the type of conflict and specifics about the harm inflicted. The health section of the 2002-2004 LSMS survey in Bosnia and Herzegovina prompts respondents to describe their disability indirectly. The option “war wounded” is among the answer categories. Respondents are also asked for the year that they became disabled.

Among the most comprehensive surveys, the 2006 LSMS survey in Iraq indirectly asks respondents, in the section on disabilities and chronic illness, to describe how they became disabled. Among the predefined answer categories, the respondent can choose “landmine” and “war other than landmines”. The survey also contains a section on diseases and accidents, where respondents are asked for the main causes of injuries. One of the answer categories is “civil violence”. In another section, respondents are asked whether they forewent medical care for illness or injury due to the unsafe security situation. This survey covered physical harm well but could have captured better information by extending answer options. The 2000 LSMS survey in Kosovo provides an example of extensive answer choices in a question on victimhood over the previous 12 months. The survey asks if “any member of your household has been the victim of corruption/extortion, harassment/threats, physical aggression, theft/robbery, sexual aggression, or kidnapping.”

While information on physical harm is relatively well-collected, many surveys could improve by making answer categories more comprehensive and sensitive to intensity. We designed our answer categories to cover a range of violent scenarios, from verbal threats and insults to physical and sexual assaults, forced labour, and extortion. Specifically, we include categories for threats and insults with and without weapons; assaults, including beating, kicking, strangling, burning, and shooting; injuries from landmines and unexploded ordnances; sexual violence, including forced intercourse and other acts; the loss of body parts; and other coercive action, including forced labour, kidnapping, and extortion. These nuanced scenarios provide a comprehensive picture of how violence is perpetrated on individuals. They also provide a scale of intensity, allowing researchers to gauge the level of brutality borne by respondents.

We suggest asking these questions at the household level since asking a single respondent about harm to a wider group increases the perceptiveness of the survey. Asking at the household level naturally

assumes that the household representative being questioned has full knowledge of all the harm affecting the members of his household. This may not be the case and studies that are particularly interested in documenting the effects of conflict on health and harm may wish to question household members individually, spending more resources but delivering a more precise result.

Researchers must be careful when investigating harm because perspectives about what constitutes violence will differ across contexts and cultures. The meaning of phrases like “physical violence” and “sexual violence” may vary greatly. Even small differences in the meaning might impede comparisons across countries. To circumvent some of the challenges, it is helpful to train enumerators to be sensitive to the variation in meaning, while working within the framework of specific answer codes. The 2005 Rwandan Demographic and Health Survey provides a good example of how this can be done. The survey differentiated carefully between forms of sexual violence, asking respondents if they were “physically forced to have sexual intercourse” or “forced to perform other sexual acts the person did not want.” Carefully crafting answer categories and extensively training enumerators to understand how definitions of violence can vary will help to maintain comparability in different contexts.

D4: When was the harm inflicted for the first time?

D5: Please specify if the referred person was part of a warring faction when harm was inflicted.

(SPECIFY THE WARRING FACTIONS IN CONTEXT)

D6: Where did the incident occur?

D7: Code for Perpetrator

This section aims to identify whether those experiencing harm are combatants or civilians. We ask directly which warring faction the person belonged to and indirectly for the location of the incident. Combatants are likely to report injuries from the battlefield or in a combat operation, while civilians are more likely to sustain injury during transit, at home, at work or in a refugee camp. We also take care to capture the timing of the incident.

These questions may lead to the identification of perpetrators of violence and must be asked with care. Although we recognise several challenges when asking these questions, such as increased security and trauma risks for the respondents, we suggest including them when the analysis of links between violent acts, victims, perpetrators and the consequences of the acts are important for the research at hand. The answer categories in this section are left open in order to better capture all potential perpetrators. Perpetrators often vary more widely than initially assumed (Annan, Blattman and Horton 2006), and it is sometimes useful to estimate the extent of involvement of certain groups in warfare, such as in peace and reconciliation processes.

Beyond identifying the faction to which perpetrators belong, the questions proposed here also allow the identification of the social category of the perpetrators. For this we provide codes for several social types, identifying whether perpetrators were formal or irregular combatants and how intimately they knew the victims. We ask if the acts were carried out by someone intimate, such as a household member or neighbour, or someone unfamiliar, such as a stranger or foreigner. We also identify whether

perpetrators were government troops, rebels, or bandits. This provides indirect information about the forces involved in the conflict, in particular whether they were comprised of local people or people from far away. The NULS (2007) addresses these sensitive questions well. The survey identifies the perpetrators in several answer options including “family members”, “people in the neighbourhood”, “local militias”, “military”, “LRA”, and “other”. We make use of some of these categories in our module.

D8: Has the referred person suffered from any physical or psychological illness of prolonged nature or death, or any afflictions due to the experiences described?

To measure the real impact of an injury on welfare, we must measure its intensity. We capture information on several types of serious injuries, including prolonged illness, injury, handicap, psychological distress, and death. Surveys usually measure the seriousness of an injury by asking how it impairs functioning. SWAY, for example, defines a serious injury as one that “impedes a youth from doing the physical labour needed for most employment in the region” (Annan, Blattman and Horton 2006: 46). Moreover, as Blattman and Annan’s (2007) findings show, it is not enough to consider immediate and direct impacts of injuries. Those that suffer from violence often experience psychological trauma and community rejection. Humphreys and Weinstein (2004; 2008) and ICRC (2009) reinforce these results. In setting up our questions in this sections, we follow the wording set out by the WHO (2004: 119) and the example provided by the NULS (2007).

4.5. Section E: displacement

E1: During (SPECIFY CONFLICT TIME PERIOD) did you leave your home for a month or more?

E2: When did you leave your home for the first time?

E3: When did you return to the place you left?

E7: How many times have you changed residence since the beginning of the conflict?

Although population displacement and refugee flows are among the most visible impacts of modern conflicts, not enough is known about the challenges faced by displaced people. The International Displacement Monitoring Center estimates a global total number of 26 million IDPs (December 2008). More than 500,000 refugees and asylum seekers from conflict areas were estimated to be living in industrialized countries in 2009 (UNHCR 2010).

These striking numbers show the extent of displacement, but tell us little about the challenges affecting people before, during and after displacement. Research to date has shown how displacement may lead to reductions in income and nutrition (Engel and Ibáñez 2007; Fiala 2009; Ibáñez and Moya 2009), new forms of entrepreneurship (Bozzoli, Brück and Wald *forthcoming*) and the break-down of family structures and social protection (Alderman, Hoddinott and Kinsey 2006).

The questions proposed in this section aim to provide a better and more systematic understanding of people’s displacement experiences. This means going beyond simply categorizing respondents as “permanent resident, displaced or returnee” as is done frequently in LSMS surveys. We seek to

understand why someone has left their home, whether displaced people intend to return, where people moved, and how many times they have been displaced.

Fafó's research team on Iraqi refugees in Jordan (Dalen, Stig, Bøås *et al.* 2009) found it problematic to focus only on respondents who intended to return. In their survey, they asked whether refugees intended to stay temporarily, neglecting those seeking a permanent residential status in Jordan. Kondylis (2007a) points out that the intention to return or remain is itself a variable and that "consistent estimates of the effect of displacement cannot be obtained on the selected sample of those displaced who returned to the municipality of origin" (2007a: 7). In Northern Uganda, households were found to have mixed forms of residence at the end of the war, with households commuting between IDP camps and their home villages (Bozzoli, Brück and Muhumuza 2012). For a full accounting, we record whether respondents have returned, plan to return, or do not plan to return, following the work of Deininger, Ibanez and Querubin (2004).

Time sensitivity is important when tracking displacement experiences. The time variable serves to link displacement with important conflict events and to measure the duration spent away from the place of origin. Again, Kondylis (2007a) makes a valuable point about the need for measuring "the duration of the initial displacement" as a major independent variable affecting respondent behaviour. The conflict exposure module addresses these gaps by detailing the timing and time span of displacement. This provides the necessary background information to estimate the impact of conflict on displacement, as well as of displacement on other socioeconomic outcomes. This section includes also a question on the number of times a person was displaced in order to better capture the intensity of the displacement experience.

E4: What was the main reason for you to move to the current location?

E8: If you were forced to leave, who forced you to leave your original place of residence?

Answer categories identifying the reasons for migration should offer a comprehensive list of conflict scenarios. Many LSMS surveys have well-designed answer categories identifying the causes of migration. The LSMS survey in Nepal (2003) asks "what was the main reason for [NAME] to migrate here?" and allows "political reasons" as a possible answer category. Similarly, the LSMS in Tajikistan (1999) includes "threat of violence" as an answer option. We follow several LSMS surveys including the 2000 LSMS survey in Kosovo, the 2001 LSMS survey in Timor-Leste, the 2003 LSMS survey in Bosnia & Herzegovina, and the 1994 LSMS in Peru, by incorporating answer options for "threat of violence/ physically forced to leave", "political reasons", "property destroyed", and "property occupied".

We include insurmountable disputes that drive people to leave their communities in the answer categories, allowing us to capture the motivations for *ex-ante* coping strategies. The rationale behind this option is to capture displacement caused by escalating problems in the local community, such as land-related tensions, disagreements over water access, and ethnic-based disputes. We also include "other insurmountable disputes" to capture disputes not listed in our disaggregation. In these cases, the household may anticipate the escalation of disputes into violence and leave the area pre-emptively. We

also include other categories such as “to look for work”, “marriage/family reasons”, “famine”, and “disease” in order to collect information that may show an indirect connection to conflict when matched with conflict event data. As in the section on harm and health, we identify who forced respondents to leave if they have been driven from their homes.

E5: Where did you stay most of the time after leaving home? (SPECIFY PERIOD OF TIME OF CONFLICT)

E6: Please specify the location

We specify the displacement location to determine if people were able to escape from danger, or whether they – despite small movements – remained in areas of conflict. Displaced people make both a physical and social journey: they travel physically to a new place and change the social context surrounding them. We identify the social context of the individual by asking whether people relied on networks, such as friends or family, or decided to flee to a refugee camp (E5). We also ask for the geographical location of the relocation site, for instance whether people migrated to another village or municipality. This information can be specified through municipality and country codes, which are often underutilized. The codes also allow researchers to infer the distances that people have moved. Combined with respondents’ demographic profiles, researchers can find out how far people can migrate if they are old or had been severely injured before the movement.

E9: Why did you stay where you lived despite the outbreak of conflict?

We offer an innovative new question addressing people who choose to remain despite the outbreak of the conflict (E9). This question reveals information on specific constraints and incentives people experience under extreme situations, such as financial constraints or the willingness to participate in conflict. Vulnerability and limited options often predict the decision to remain. Justino (2009) investigates households’ vulnerability to violence by understanding the nexus between households’ vulnerability to poverty and the exposure of households to violence during conflict. She offers an insightful investigation of household behaviour in conflict-affected areas. She emphasizes that the inability to move makes households more vulnerable and constrains their coping strategies, finding that “households unable to move from areas of conflict [may] resort to armed groups to protect their economic status in times of violence” (2009: 323) Households may also decide to remain in areas of conflict in order to better manage their exposure to violence (Kalyvas and Kocher 2009) or in order to make sure their livelihoods are not destroyed by continuing to plough fields, for instance, or staying in their houses to avoid plundering (Justino 2009).

4.6. Section F: education

Violent conflicts reduce social, economic and political opportunities for certain groups (Justino 2009). Most obviously, conflict interrupts human capital formation by affecting the access of children to education due to a series of supply and demand factors (Justino 2011). Following Blattman and Miguel (2010: 42), we focus not just on whether conflict affects household accumulation of human capital, but also “in what ways, how much, for whom, and how persistently.”

F1: Did you miss school for more than one month in the last years [SPECIFY PERIOD OF TIME IN CONTEXT]?

F2: How long did you stay out of school?

These questions indicate how persistently education has been interrupted. To measure the intensity of school interruption, the module includes questions on the number of months of absence from school. A similar approach has been used in the 2001 LSMS survey in Timor-Leste, which asks for the duration of absence in the three months prior to the survey. This recall period may be too short to capture the impacts of long-enduring civil wars. In contexts of long-duration conflict, it may make more sense to ask about the number of months of missed school and whether the person ever went back to school after the outbreak of violence, when, and to which grade.

F3: Why did you miss school or discontinue studies? Please state the main reason.

This question is intended to be used as an instrument to uncover potential causal mechanisms whereby conflict affects education. There can be manifold reasons for school absence, all of which are important to determine the long-term impact of violence on the household, as well as on national economic growth and inequality. Understanding school absence is also crucial for post-conflict reconstruction, probably accounting for the inclusion of conflict-related changes in education in several LSMS surveys. For instance, the 2001 LSMS survey conducted in Bosnia & Herzegovina and the 2000 LSMS survey in Kosovo both include questions about reasons for leaving education, such as displacement, security and harassment. The LSMS survey conducted in Timor-Leste in 2001 goes further, detailing whether “family illness/death” was responsible for a household member missing school during childhood. This survey differentiates between different academic years, including the academic year of the conflict, 1999, which allows for the construction of a quasi-panel (Justino, Leone and Salardi 2011). In the LSMS survey conducted in Iraq in 2006 a similar question allows respondents to choose “travel to difficult or unsafe areas” as an answer category.

We extended these answer codes by including an option for “school not ready or closed (no teachers/ no building)” indicating a lack of appropriate infrastructure. During conflicts many children are forced to leave school, while others may not find the necessary facilities even if they are still able to attend. Akbulut-Yuksel (2009) has identified the destruction of schools and the absence of teachers as two important channels explaining how conflict lowers educational attainment. For the case of Northern Uganda, Annan, Blattman and Horton (2006) find that classrooms were missing basic materials, such as notebooks, chalk, and even the teachers themselves. These channels may also be present in IDP camps. Community-level surveys offer comparable questions, such as in the LSMS survey conducted in Kosovo in 2000, where community leaders reveal whether the “building [is] not ready” and whether there are any teachers.

We included additional reasons for not attending school such as the inability to pay for fees, transportation or uniforms; marriage; and the need to search for work. If a student’s financial support

disappears it can lead to patterns of school absence, interrupted by periods where children may go to work to secure payment for next periods (Annan, Blattman, and Horton 2006). Shemyakina (2011; 2009) suggests that absenteeism may not only be caused by fewer schools but also by greater reliance on parental support. Instead of asking directly whether school absence was due to “family illness/death” as in the 2001 LSMS survey in Timor-Leste, we include specific codes to differentiate between individual disease and injury, or whether the child took over new responsibilities due to illness or death of household members.

In the context of conflict, it is also important to consider whether school absence is due to military service. Annan, Blattman, Mazurana, and Carlson (2009) and Blattman and Annan (2007) argue that the effects of recruitment on income operate through the interruption of schooling, health setbacks, and the inability to collect relevant working experience. These effects may be stronger depending on whether abduction took place. (We include abduction as an answer category.) The inclusion of a comprehensive number of answer categories may allow survey users to identify more precisely the channels through which violent conflict may affect human capital formation. A greater understanding of the link between conflict and capital formation may in turn enable policymakers to better target interventions to the specific needs of vulnerable groups.

4.7. Section G: perceptions of security, life satisfaction and expectations

G1: How safe do you feel in your neighbourhood/ local area?
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Even long after the official end of war, people may still be or feel threatened.²⁸ Past violence may affect individual and household behaviour through perceptions of safety and future expectations. Capturing these perceptions is important, as it might explain why individuals and households may employ certain types of coping strategies over others during and also after the end of a conflict. To measure perceptions of safety, we have adapted answer categories included in the WHO 2004, NULS 2007, and the Afrobarometer surveys. The Afrobarometer surveys include a number of questions on attitudes towards the use of violence in different contexts, as well as the perception of changes in “safety from crime and violence”.²⁹ Through these questions, researchers can establish direct links between current political situations and the fear of violence. For instance, the 2008 Ghana LSMS survey asks, “During election campaigns in this country, how much do you personally fear becoming a victim of political intimidation or violence?” Question G1 allows researchers to understand better how individuals and households perceive their own security regardless of whether the conflict is technically on-going or ended.

²⁸ See Brück and Müller (2010) for a discussion of the determinants of fear over terrorism versus fear over other issues such as crime.

²⁹ Afrobarometer surveyed attitudes towards the use of violence in Mali in 2001, Malawi in 2005, Nigeria in 2005, and on perception of the changes in safety in Mali in 2001.

G2.1: If your satisfaction was a ladder with 10 steps, how satisfied would you say you are in the following categories?

G2.2: How satisfied do you think you will be in the next one year?

G2.3 How peaceful do you expect your area to be over the next one year?

Conflict may have a strong impact on life satisfaction and expectations about the future. Bozzoli, Brück, and Muhumuza (2010) find that exposure to conflict is associated with pessimism over economic recovery. This pessimism increases with the intensity of the conflict experience. We include subjective questions on life satisfaction, following a standard Cantril 10-step ladder scale, to generate a baseline level of satisfaction. This baseline level of satisfaction can be measured against the respondent's expected satisfaction level in one year. Additionally, we ask about the expectations for renewed or ongoing conflict over the next year. We differentiate between expectations of intense conflict, sporadic conflict and peace.

5. Conclusion

This sourcebook provides academics and practitioners with a comprehensive tool, the Conflict Exposure Module, to measure how individuals and households experienced past or recent violent conflict. In particular, the Conflict Exposure Module can act as a template for adapting and expanding existing socioeconomic surveys to be more conflict-sensitive. This has particular relevance for the World Bank's LSMS surveys and for DHS surveys, which are both well-constructed for the collection of data in peaceful contexts but lack a systematic recognition and treatment of conflict, to date. This sourcebook maps out a path for building a systematic and comparable understanding of the channels through which different types of group-based violence affect the behaviour and welfare of individuals and households—and thereby their communities and countries.

By adapting the Conflict Exposure Module to local needs and realities, micro-level surveys in conflict-affected countries can be more realistic and appropriate. Studies using such conflict-sensitive surveys will be more nuanced and persuasive, whether they aim to explain violence or investigate the legacies of violence. Even studies not directly referring to conflict will be improved if they use the conflict variables suggested in the Conflict Exposure Module, as otherwise studies run the risk of incurring omitted variable bias.

We encourage researchers in conflict-affected areas to treat conflict as an important variable in its own right. Many socioeconomic surveys in conflict-affected areas ask about conflict only selectively, missing important features in the process, while other specialized surveys focus on particular conflict features without giving a comprehensive treatment of the multi-faceted ways that conflict can impact respondents. We argue for a comprehensive approach that addresses a broad array of the welfare impacts of conflict. This sourcebook and its Conflict Exposure Module, appropriately adapted to local conditions, can serve as a general model for comprehensively investigating how conflict changes

demographics in the household, affects economic welfare, challenges people's ability to cope, causes physical harm, dislocates people, shortens education, and alters perceptions.

We aligned the Conflict Exposure Module to take advantage of the major methods that researchers have recently developed to determine the impact of conflict on individuals and households, namely through comprehensive self-reporting, matching socioeconomic responses to conflict event databases, and writing survey questions to capture the intensity of impact. In addition, the sourcebook covers methodological challenges often encountered by researchers in conflict-affected areas, including operationalizing a definition of conflict, using the appropriate unit of analysis, timing the survey, dealing with common biases, and conducting surveys in an ethical manner.

Based on these considerations, priorities for measuring conflict exposure may be identified in two dimensions covering themes and periods. In terms of themes, there may be an order of priority for the type(s) of loss to be measured. It may be easiest in several ways (less costly, less contentious, etc.) to measure conflict-induced losses and damages in terms of physical or financial assets and human capital. This is what is sometimes measured already in surveys in conflict-affected areas, and it would help to identify some adverse effects of conflict by locality or household. The next topic in order of declining priorities would be to measure the effects of conflict on people in terms of how conflict shapes their coping strategies and their welfare. This may require more subtle questions and may be more contentious to enumerate, but is at the core of understanding legacies of conflict. A still lower priority may be to identify the effects of conflict on markets and society. This may also include pertinent but hard to measure issues like trust, informal networks, and social capital. On the other dimension, in terms of periods, it seems critical to bear in mind the measurement of conflict exposure in the pre-war, war-time and post-war periods – and not to focus on what is most easily measured, namely the most recent period. These are then two specific recommendations for prioritization in the design of conflict-sensitive surveys accounting for at least some dimensions of how the impact of conflict on people.

Once multiple surveys with a Conflict Exposure Module have been conducted, it will be interesting to review this experience to see how having detailed and comparable information on conflict from multiple settings has contributed to our understanding of conflict dynamics themselves, as well as of socioeconomic development in conflict-affected areas. As can be recognized with the progress derived from the widespread adoption of DHS and LSMS surveys, we may not yet be able to imagine how better data on conflict will shape our understanding of these issues.

III. Food consumption

	B 3.1	B 3.2	B 3.3	B 3.4	
Code of respondent	Did your household experience severe declines in food consumption or hungry periods before the conflict or since its onset? SPECIFY PERIOD OF TIME IN CONTEXT	What was the longest period of lower food consumption?	We would like to know the reasons for the fall in food consumption. Did you experience any of the following?	When exactly did you experience it for the first time?	
	Yes.....1 No.....2 Don't know..77 Refused to answer.....99 If NO, skip to next section		Yes...1 No...2 DK...77 RA...77	Month	Year
			1. Destruction of crops/livestock	<input type="text"/>	<input type="text"/>
			2. Absence of food markets	<input type="text"/>	<input type="text"/>
			3. Too dangerous to get to market	<input type="text"/>	<input type="text"/>
			4. Transport to market impossible	<input type="text"/>	<input type="text"/>
			5. Inflation/volatility of prices	<input type="text"/>	<input type="text"/>
			6. Lack of available money to buy food	<input type="text"/>	<input type="text"/>
			7. Food aid shortage/not delivered	<input type="text"/>	<input type="text"/>
			8. Theft of crops/livestock/food stores	<input type="text"/>	<input type="text"/>
			9. Poor harvest	<input type="text"/>	<input type="text"/>
			10. Others, please specify	<input type="text"/>	<input type="text"/>
				<input type="text"/>	<input type="text"/>
		Number of months		<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>

Section C: activities during conflict (Unit of Analysis: Household level)

	C1	C2		C3.1	C3.2		C3.3	C3.4	
Code of respondent	Have you or your household members changed your economic activities as a result of violence? SPECIFY TIME PERIOD	Compared to before the conflict [SPECIFY PERIOD OF TIME IN CONTEXT] does your household [INSERT ACTIVITY HERE] more, less, or about the same? More.....1 Quit activity.....4 Less.....2 Not applicable.....5 Same.....3 Don't know.....77 Refuse to answer..99		Did any member of your household take any of the following steps in/during [SPECIFY PERIOD OF TIME]? Step undertaken.....1 Step not undertaken.....2 Plan to undertake step in near future..3 Don't know.....77 Refuse to answer.....99	If so, when exactly was the measure introduced?		What was the main reason?	If done for protection, what is it going to protect your household from (state main purpose only)?	
					Month	Year			
Yes.....1 No.....2 Don't know..77 Refused to answer.....99 If NO, skip to next section		1. Engage in social networks (groups, community)	<input type="checkbox"/>	1. Joined the official police	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		2. Save money	<input type="checkbox"/>	2. Joined a rebel group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		3. Engage in investment	<input type="checkbox"/>	3. Joined the military	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		4. Borrow money/ ask for loan	<input type="checkbox"/>	4. Paid contribution to rebel groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		5. Depend on transfers and assistance (other than money) from gov't, NGOs, or church	<input type="checkbox"/>	5. Tried to bribe governmental officials or rebels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		6. Grow cash crops	<input type="checkbox"/>	6. Joined or established community policing/neighbourhood watch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		7. Raise livestock	<input type="checkbox"/>	7. Got a weapon (handgun, shotgun, rifle, machete, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		8. Send children to work	<input type="checkbox"/>	8. Reduced visit market	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		9. Migrate for salary (number of times)	<input type="checkbox"/>	9. Got guard dogs/ employed watchmen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		10. Number of daily meals	<input type="checkbox"/>	10. Improved house security (bars, walls, fence)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		11. Quality of meals	<input type="checkbox"/>	11. Sold furniture/assets/livestock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		12. Share food	<input type="checkbox"/>	12. Had children migrate out of the community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		13. Consume reserved seeds	<input type="checkbox"/>	13. Became more active member of the community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		14. Sell livestock or other goods	<input type="checkbox"/>	14. Became less active member of the community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		15. Share tenancy	<input type="checkbox"/>	15. Used connections with influential people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		16. Work (part-time vs. full-time)	<input type="checkbox"/>	16. Used traditional remedies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	17. Engage in education (efforts)	<input type="checkbox"/>	17. Others, please specify:				

CODE FOR QUESTION C5

- Increase income/productivity.....1
- Respect.....2
- Express protest...3
- Protection.....4
- Information.....5
- Distrust.....6
- Other.....7
- Don't know.....77
- Refuse to answer.99

CODE FOR QUESTION C6

- Physical threats/intimidation/harassment.....1
- Incursion.....2
- Insults.....3
- Beating/assault....4
- Rape.....5
- Loss of body parts..6
- Forced labour.....7
- Kidnapping.....8
- Extortion.....9
- Robbery.....10
- Witchcraft.....11
- Others.....12
- Don't know.....77
- Refuse to answer..99

Section F: education (Unit of Analysis: Individual level)

(SPECIFY AGE OF PARTICIPANTS)

	F1	F2	F3	CODE FOR QUESTION F3	
Code of respondent	Did you miss school for more than one month in the last years (SPECIFY PERIOD OF TIME IN CONTEXT)?	How long did you stay out of school? <i>Do not count holidays.</i>	Why did you miss school or discontinue studies? Please state the main reason.	Displaced, no school available.....1	Unable to pay for fees/transport/uniform..10
	Yes...1 DK....77 No...2 RA....99	Never went to school again Number of months or ...1		Traveling too difficult or too far.....2	Military service.....11
	If NO, skip to G1			It was not safe to go to school.....3	School not ready or closed (no teachers/no building.....12
				New household responsibilities due to illness/death of household members....4	Abduction.....13
				Got married.....5	Hunger.....14
				Suffered from disease or injury.....6	Anticipation of punishment.....15
				Had a good working opportunity.....7	Other reason.....16
				Was searching for a working opportunity..8	Don't know.....77
				Harassment/injustice at school (e.g. ethnic based or religious exclusion)...9	Refuse to answer.....99

Section G: perceptions of security, life satisfaction and expectations (Unit of Analysis: Individual level)

	G1	G2.1	G2.2
Code of respondent	How safe do you feel in your neighbourhood/ local area?	If your satisfaction was a ladder with 10 steps, how satisfied would you say you are in the following categories?	How satisfied do you think you will be in the next one year?
	Strongly agree.....1 Agree.....2 Disagree.....3 Strongly disagree...4 Don't know.....77 Refuse to answer...99	completely dissatisfied completely satisfied 0 1 2 3 4 5 6 7 8 9 10	completely dissatisfied completely satisfied 0 1 2 3 4 5 6 7 8 9 10
	1. I feel safe when walking alone in the neighbourhood during the day.	1. How satisfied are you with your life overall?	1. How satisfied will you be with your life overall?
	2. I feel safe when walking alone in the neighbourhood during the night.	2. ...your security?	2. ... your security?
	3. I feel safe from crime and violence when I am alone at home.	3. ...your household income?	3. ...your household income?
	4. I avoid using certain ways and do not go to certain areas that I think are dangerous.	4. ...your personal income?	4. ...your personal income?
	5. My neighbourhood is peaceful overall.	5. ...the education of the children in your household?	5. ...the education of the children in your household?
	6. My neighbourhood is marked by the repeated occurrence of violence.	6. ...your health?	6. ... your health?
	7. The level of violence has increased a lot compared to two years ago.	7. ...your dwelling?	7. ... your dwelling?
	8. It is very likely that in the next 12 months I will become a victim of violence.		G2.3
	9. I never hear weapons being fired in my neighbourhood.		How peaceful do you expect your area to be over the next year?
	10. The police are doing a good job.		Return to/on-going conflict...1 Unarmed unrest.....4 Subsiding conflict.....2 Generally peaceful.....5 Sporadic armed violence.....3

Annex II: Surveys with conflict-related questions by regions

Angola	Demographic and Health Survey (DHS), 2006/7, 2011.
Azerbaijan	World Bank, 1995: The Living Standards Measurement Study (LSMS) Azerbaijan, Household Survey. Demographic and Health Survey (DHS), 2006.
Bosnia & Herzegovina	World Bank, 2001-2004: LSMS Bosnia & Herzegovina, Household Survey.
Burundi	Burundi Institute of Statistics, 1999: The Burundi Priority Survey, October 1998 and March 1999. Demographic and Health Survey (DHS), 2010. Samii, Cyrus/ Eric Mvukiyehe/ Gwendolyn Taylor, 2007: 2007 National Survey Instruments, Burundi. Civilian Questionnaire – English Translation, http://www.columbia.edu/~cgs81/burundisurvey/ (07/04/2010). Bundervoet, Tom/ Eleonora Nillesen/ Philip Verwimp/ Maarten Voors, 2009: Integrating Conflict Questions in a Household Survey: An Example from Burundi. HiCN Research Design Note 12.
Chad	Demographic and Health Survey (DHS), 2004.
Colombia	PROFAMILIA, Asociación Pro-Bienestar de la Familia Colombiana and Macro International, 1995, 2000, 2005, 2010: Demographic and Health Survey (DHS) Colombia. Arjona, Ana M./ Stathis N. Kalyvas, 2008: Rebellious Against Rebellion: Comparing Insurgent and Counter-insurgent Recruitment, http://www.crise.ox.ac.uk/copy/mobilisation%20conference/arjona_kalyvas.pdf (07/04/2010).
Cote d'Ivoire	Mvukiyehe, Eric/ Cyrus Samii, 2008: Laying a Foundation for Peace? A Quantitative Impact Evaluation of the United Nations Operation in Cote d'Ivoire, http://www.columbia.edu/~cgs81/docs/unoci/ics2008_report081218.pdf (07/04/2010).
Darfur	Darfur Refugee Questionnaire (DRQ). In: Samuel Totten/ Eric Markusen (eds.), 2006: Genocide in Darfur: investigating the atrocities in the Sudan. Taylor & Francis Group, LLC.
Democratic Republic of Congo	Humphreys, Macartan, 2007: Democratic Republic of Congo (in French), http://www.columbia.edu/~mh2245/DRC/survey.pdf (07/04/2010). Demographic and Health Survey (DHS), 2007.
Eritrea	Demographic and Health Survey (DHS), 2002.
Gaza	FAO survey, conducted in February-March 2009.
Guatemala	World Bank, 2000: LSMS Guatemala, Community Survey. Demographic and Health Survey (DHS), 1995-1999 (3 surveys).
Indonesia	Barron / Humphreys/ Tajima /Weinstein / World Bank Aceh household and XC survey (ARLS) Household and XC Survey World Bank, 2005: GAM Reintegration Needs Assessment 2005. Survey Documentation. See also: International Organization for Migration (IOM) prisoner survey
Iraq	World Bank, 2006: LSMS Iraq, Household Survey – Individual Survey. Fafo-Ais, 2004: Iraq Living Conditions Survey 2004, http://www.fafo.no/ais/middeast/iraq/imira/Tabulation%20reports/english%20atlas.pdf (07/04/2010).

	Fafo-Ais, Iraqis in Jordan 2007, survey: http://www.fafo.no/ais/middeast/jordan/IJ_QENG.pdf , report: http://www.fafo.no/ais/middeast/jordan/IJ.pdf (07/04/2010).
Kosovo	World Bank, 2000: LSMS Kosovo, Household Survey (individual & community).
Liberia	Taylor, Gwendolyn, 2007: CHF International 2007. Ex-combatant Economic Reintegration Survey (Lofa County).
	Pugel, James, 2006: UNDP Liberia Ex-Combatant Survey Nr. 1. Field Guide for Enumerators and Supervisors. February-March 2006, http://www.columbia.edu/~mh2245/XCSURVEYS/LIBERIA_FEB06_METHOD.pdf ; survey accessible at: http://www.columbia.edu/~mh2245/XCSURVEYS/LIBERIA_FEB06.pdf (23/04/2010). (Results published in: Pugel, James. 2006: What the Fighters Say: A Survey of Ex-combatants in Liberia. UNDP Liberia.)
	Eric Mvukiyehe/ Cyrus Samii, 2008: Laying a Foundation for Peace in Liberia. December 23, 2008
	Fearon, James D. / Macartan Humphreys/ Jeremy M. Weinstein, 2009: Can Development Aid Contribute to Social Cohesion after Civil War? Evidence from a Field Experiment in Post-Conflict Liberia. American Economic Review: Papers & Proceedings, 99 (2) 287–291. Data and Codebook available at Macartan Humphreys' personal website.
	Demographic and Health Survey (DHS), 2007-2011 (3 surveys).
Malawi	World Bank, 2004, 2010: LSMS Malawi, Community Survey - Household Survey.
	AfroBarometer 2005, Attitudes to Democracy and Market in Malawi.
	Demographic and Health Survey (DHS), 1996-2010 (4 surveys).
Mali	AfroBarometer 2001, Attitudes to Democracy and Market in Mali.
Nepal	World Bank, 1996, 2003, 2005/6, 2010: LSMS Nepal, Household Survey.
	Samii, Cyrus/ Michael Gilligan/ Kristine Eck, 2009: Nepal Peacebuilding Survey: Study Design, December 10, 2009
Nigeria	Guichaoua, Yvan, 2007: Who joins ethnic militias? A survey of the Oodua People's Congress in South-western Nigeria. Crise Working Paper, 44, March 2007.
Papua New Guinea	Household Income and Expenditure Survey 2008.
Peru	World Bank, 1991, 1994: LSMS Peru, Household Survey.
Republic of Mozambique	Republic of Mozambique, Ministry of Agriculture, 2005: National Agricultural Survey 2005, Small- and Medium-Sized Farms-Panel, http://www.aec.msu.edu/fs2/mozambique/survey/index.htm (07/04/2010). Not directly related to conflict this survey has a good section on 'coping strategies'.
Rwanda	Rwandan Rural Labour and Death Survey, 2002, http://www.aec.msu.edu/fs2/Rwanda/deathhistory_eng.pdf (07/04/2010).
	Institut National de la Statistique Ministère des Finances et de la Planification Économique Kigali, Rwanda, 2006: Rwanda Demographic and Health Survey 2005. Calverton: ORC Macro.
	Scott Straus. Rwanda Prisoner Questionnaire 2002 Questionnaire

	Christian Davenport and Allan Stam Butare Survey, http://www.columbia.edu/~mh2245/XCSURVEYS/BUTARE.pdf (07/04/2010).
Serbia	World Bank, 2002, 2003, 2007: LSMS Serbia, Household Survey (individual).
Sierra Leone	Humphreys, Macartan/ Jeremy Weinstein/ PRIDE-Salone, 2003: Sierra Leone Ex-Combatant Survey #1, survey available at: http://www.columbia.edu/~mh2245/Survey.pdf (28/04/2010). PRIDE/ International Center for Transitional Justice, 2002: Ex-Combatant Views of the Truth and Reconciliation Commission and the Special Court in Sierra Leone, http://www.ictj.org/images/content/0/9/090.pdf (Apr 2010). Demographic and Health Survey (DHS), 2008.
Sri Lanka	Demographic and Health Survey (DHS), 2006/7.
Tajikistan	World Bank, 1999, 2007, 2009: LSMS Tajikistan, Household Survey (pop. point).
Timor-Leste	World Bank, 2001: LSMS Timor-Leste, Household Survey (individual), Timor-Leste- Survey of Living Standards 2007 and Extension 2008. Demographic and Health Survey (DHS), 2009/10.
Uganda	Blattman, Chris, 2005: Uganda: Survey of War-affected Youth (SWAY), Household-Survey, http://chrisblattman.com/data/sway/ Blattman, Chris, 2005/6: Uganda: Survey of War-affected Youth (SWAY), Phase 1 (Males) Individual survey, http://chrisblattman.com/data/sway/ . Blattman, Chris, 2007: Uganda: Survey of War-affected Youth (SWAY), Phase 2 (Females) Individual survey, http://chrisblattman.com/data/sway/ . Fafo AIS, 2007: Northern Uganda Livelihood Survey. 2005 Northern Uganda Internally Displaced Persons Profiling Study 2006 Lira District Early Recovery Needs Assessments. Demographic and Health Survey (DHS), 1995-2011 (7 surveys).
Vietnam	Kalyvas, Stathis N./ Matthew Adam Kocher, 2009: The Dynamics of Violence in Vietnam: An Analysis of the Hamlet Evaluation System (HES). Journal of Peace Research, 46: 335-355. Survey available under www.prio.no/misc/Download.aspx?file...Data%2FKK_appendix.doc (27/04/2010).

Annex III: Purposely designed surveys

Author(s) & Publication date	Title	Type	Location	Sample size (hh)	Selected results
Blattman Annan 2006	Survey of War Affected Youth	Ex-combatant	Northern Uganda	741	<ul style="list-style-type: none"> • Psychosocial health of male youth is robust • Episodic schooling is common due to lack of funds • Economic options for youth are abysmal • 1/6th of youths suffer debilitating injury or illness, many of which were caused by the LRA • 1/3rd of male youth reported abduction. • The prevalence of violent experiences is high and highest among those abducted
Humphreys and Weinstein 2004	What the fighters say	Ex-combatant	Sierra Leone	1,043	<ul style="list-style-type: none"> • Combatants tend to be uneducated and poor • RUF tended to recruit by force • CDF recruited from communities for common defense • Remuneration was typically only sufficient to meet basic needs • Soldiers showed no support to continue the conflict to make gains from the war economy
Arjonas Kalyvas 2008	Rebelling against Rebellion	Ex-combatant	Colombia	732	<ul style="list-style-type: none"> • Rebels and counter-insurgent recruits share similar socioeconomic backgrounds • Counter-insurgent recruits are motivated by more materialistic concerns than rebel counterparts • Low state capacity predicted both rebel and counter-insurgent recruitment

Guichaoua 2007	Oodua People's Congress Survey	Ex-combatant	Nigeria	168	<ul style="list-style-type: none"> • Investigates the recruitment process to the Oodua People's congress • Recruits joined because of a sense of threat or danger and their connections with militia insiders as well as material concerns
Mvukiyehe, Samii, and Taylor 2006-2009	Wartime and Post-Conflict Experiences	Ex-combatant	Burundi	3,000	<ul style="list-style-type: none"> • DDR programs in Burundi increased income among ex-combatants but not political or social integration • Few Burundians wish to punish crimes committed by ex-combatants. Most express a preference for forgetting rather than truth-telling about war experiences
Verwimp 2000	Genocide Transition Survey	Genocide	Rwanda	350	<ul style="list-style-type: none"> • Landless peasants and land-rich employers were most likely to be the perpetrators of genocide (Verwimp 2005) • Evidence provides no support for claims of double genocide, as patterns of Tutsi and Hutu killings vary substantially (Verwimp 2003)
Verwimp and Verpoorten 2002	Post-Conflict Survey of the Rural Household Economy	Post-conflict	Rwanda	256	<ul style="list-style-type: none"> • Rwandan provincial economies converged due to uneven effects of the conflict (Justino & Verwimp 2006) • Income mobility as a result of genocide and war shocks (Justino and Verwimp 2006; Verpoorten and Berlage 2007) • Selling livestock to buy food is constrained during conflict (Verpoorten, 2009)
Kalyvas and Kocher 2009	An analysis of the Hamlet Evaluation System		Vietnam		<ul style="list-style-type: none"> • Vietnamese insurgents mostly used selective killing in areas of predominant but not full control • US and South Vietnamese used indiscriminate violence in rebel dominated areas • Contested areas saw relatively little violence
Bjørkhaug, Bøås, Hatløy <i>et al.</i> 2008	Northern Uganda Livelihood Survey of 2007	Displacement	Northern Uganda	5,000	<ul style="list-style-type: none"> • Conflict intensity is linked to lowered expectations of economic recovery (Bozzoli, Brück and Muhumuza 2010)

Deininger, Ibáñez and Querubin 2004	RUT Household Survey	Displacement	Colombia	32,093	<ul style="list-style-type: none"> • Displaced households return for agriculture employment, to recover land and reintegrate with social networks • Displaced households are unlikely to recover the loss of important assets and may be trapped in poverty (Ibáñez and Moya 2009) • Threats of violence and insecurity motivate displacement especially among land owners, members of local organizations and younger households (Engel and Ibáñez 2007)
Humphreys 2008	Tuungane community reconstruction program	Post-Conflict	DR Congo	3,000	<ul style="list-style-type: none"> • Between 1996 and 2007, 61% of respondents report being displaced. • Welfare indicators are low with 80% of respondents living in mud huts and 42% without access to education. • Participatory decision making is limited and village chiefs have a large degree of control over decision making.
Brück 2010-2013 <i>forthcoming</i>	Life in Kyrgyzstan	General conflict	Kyrgyz-stan	3,000	<ul style="list-style-type: none"> • Collects nationally representative panel survey data in Kyrgyzstan. • Investigates well-being and behavior of individuals and households
Justino 2010-2013 <i>forthcoming</i>	Maharastra Household Longitudinal Survey	General conflict	Maharastra, India	1,089	<ul style="list-style-type: none"> • Panel dataset focusing on low income areas in urban areas • Especially designed to study civil violence
Verwimp, Nillesen, Bundervoet 2007, 2012	Priority Survey – Panel 2007	General conflict	Burundi	1,400	<ul style="list-style-type: none"> • Village level violence decreases household consumption (Verwimp and Bundervoet, 2009). • Child malnutrition is a predictor to child mortality (Verwimp, 2011).

Voors, M, E. Nillesen and P. Verwimp (2009)	Economic Games	General Conflict	Burundi	300	<ul style="list-style-type: none"> • Violent conflict changes social, risk and time preferences (Voors et al, 2012).
Verwimp, D'Aoust and Sterck (2010)	Post-conflict reintegration survey	Ex- combatant	Burundi	1,200	<ul style="list-style-type: none"> • The reintegration program in Burundi offers benefits beyond the individual level in the form of village level externalities (D'Aoust, Sterck and Verwimp, forthcoming).

Annex IV: Academic work using LSMS and DHS in conflict-affected countries

Academic work	LSMS or DHS survey	Selected Results
Bhaumik, Gang, and Yun 2005	LSMS Kosovo 2000	<ul style="list-style-type: none"> • Studies the relationship between ethnic conflict and economic disparity, showing that, despite an advantageous economic position, Serb rates of poverty were higher than Albanians.
Alva, Murrugarra and Paci 2002	LSMS Kosovo 2000	<ul style="list-style-type: none"> • Examines the costs of conflict in education, showing that ethnic tension has harmed Albanian male youth educational attainment
Douarin, Litchfield and Sabates-Wheeler 2010	LSMS Kosovo 2000	<ul style="list-style-type: none"> • Finds that exposure to conflict predicts the livelihood choices of households, such as the take up of wage labour, reliance on remittances or social assistance, or entrepreneurial activities
Kondylis (2007)	LSMS Bosnia Herzegovina 2001-4 (4 surveys)	<ul style="list-style-type: none"> • Investigates conflict's effects on the labour market and finds that 'able' workers are more likely to be displaced and unemployed after conflict
Swee (2009)	LSMS Bosnia Herzegovina 2001	<ul style="list-style-type: none"> • Finds that war intensity, particularly the military draft, adversely affects secondary, but not primary, schooling attainment
Do and Iyer 2009	LSMS Bosnia Herzegovina 2001	<ul style="list-style-type: none"> • Finds no significant differences on mental health from people who experienced different levels of conflict intensity
Hatlebakk 2007	LSMS Nepal 2003/4	<ul style="list-style-type: none"> • Studies the effects of Maoist influence on data collection quality, finding only minor impacts such as the need for approval
Valente 2011	LSMS Nepal 2003/4 DHS Nepal 1996-2006 (3 surveys)	<ul style="list-style-type: none"> • Finds that abductions by Maoists and conflict intensity increased the probability of early marriage but that only abductions by Maoists had a negative effect on school attainment
Menon and van der Meulen Rodgers 2011	LSMS Nepal 2003/4	<ul style="list-style-type: none"> • Finds that women's likelihood of employment increased because of conflict
Pivovarov and Swee 2012	LSMS Nepal 1995/6 and 2003/4	<ul style="list-style-type: none"> • Show how endogeneity and self-selection issues create biases in estimating the micro effects of conflict in Nepal. • Demonstrates that 'low ability' individuals are most likely to be displaced, suffering from

		the direct effects of conflict and the adjustment costs of displacement
Shemyakina 2006	LSMS Tajikistan 1999 & 2003	<ul style="list-style-type: none"> • Finds that exposure to conflict has a significant effect female enrollment and schooling attainment but no effect on males
Shemyakina 2009	LSMS Tajikistan 1999 & 2003	<ul style="list-style-type: none"> • Studies the effect of conflict on marriage and reproductive behavior, finding that conflict postpones marriage among women of marriageable age
Justino and Shemyakina 2008	LSMS Tajikistan 1999 & 2003	<ul style="list-style-type: none"> • Studies the effect of remittances on the labour supply, finding that remittances decrease labour participation rates especially in conflict areas
Justino, Leone and Salardi 2011	LSMS Timor-Leste 2001 & 2007	<ul style="list-style-type: none"> • Studies impact of conflict on the level and access to education of children * finds a substantial loss of human capital accumulation among boys
De Walque 2004	DHS Cambodia 2000	<ul style="list-style-type: none"> • Finds that excess mortality during the Khmer Rouge period was especially likely among adult males, especially with urban or educated backgrounds
Hegre, Østby and Raleigh 2009	DHS Liberia 1986	<ul style="list-style-type: none"> • Shows how pre-existing absolute and relative welfare influence conflict events in the Liberian civil war.
De Walque and Verwimp 2010	DHS Rwanda 1992-2011 (7 surveys)	<ul style="list-style-type: none"> • Finds that genocide related mortality was highest among educated and urban groups.
Østby 2008	36 DHS surveys	<ul style="list-style-type: none"> • Finds evidence that 'horizontal inequalities, those that coincide with identity divisions, aggravate grievance and promote social cohesion, facilitating mobilization for conflict.
Bundervoet 2009	DHS Burundi 2002	<ul style="list-style-type: none"> • Finds that older, wealthier and better educated males were more likely to be killed in the 1993 Burundi massacres. • Finds that communal pressure for land increased the likelihood of killings

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